

ILLINOIS POLLUTION CONTROL BOARD
April 8, 1993

GENERAL CHEMICAL CORPORATION,)
(Chemical Manufacturing Plant),)
)
Petitioner,)
)
v.) PCB 92-217
) (Variance)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

OPINION AND ORDER OF THE BOARD (by B. Forcade):

This matter comes to the Board on a December 31, 1992 Petition for Variance filed by General Chemical Corporation, Chemical Manufacturing Plant (GCC) seeking temporary relief from the provisions of 35 Ill. Adm. Code 201.141 and 212.322(a) regarding air pollution and emissions of particulate matter for its facility located in Fairmont City, Canteen Township, St. Clair County, Illinois, with a mailing address of 2500 Kingshighway, East St. Louis, Illinois. An initial Board order setting this matter for hearing was vacated premised upon a filing of January 22, 1993, by the Illinois Environmental Protection Agency (Agency). No request for hearing was received, no hearing was held. The Agency filed its recommendation that variance be granted subject to certain conditions on March 18, 1993. The Board grants variance, subject to those conditions.

GCC's plant is the only domestic producer of sodium aluminum sulfate (SAS), a food grade product used in the manufacture of baking powder. SAS is blended with sodium bicarbonate to produce double acting baking powder such as "Clabber Girl" or "Calumet". The only other known source of SAS to the U.S. baking industry is in Mexico. (Pet. ¶ 1). The plant manufactures approximately 2500 tons of SAS per year and employs 26 people. GCC asserts that it is presently out of compliance with Board regulations and that failure to grant variance during the period required to install the required pollution control equipment would result in shut down of the SAS operation, layoff of 7 hourly employees and probable operational restrictions on GCC's baking industry customers while they secured alternative supply sources. GCC asserts they would be unlikely to reclaim any lost market share. (Pet. ¶ 2).

The production of SAS begins by mixing aluminum sulfate, sodium sulfate and small amounts of sulfuric acid and sodium hydrosulfide. The materials are mixed with water in the SAS mix tank. From the mix tank, liquid SAS is pumped to a rotary kiln roaster. The roaster reduces the excess liquid and the rotary action produces spherically shaped pieces of solid SAS. The

solid SAS is then crushed to the appropriate size. The roaster emits particulate matter (PM). The roaster emissions are controlled by a water scrubber prior to emission through a stack. The majority of the particulate matter emitted by the roaster is less than 10 microns in diameter (PM₁₀). The SAS roaster and water scrubber are included in an Agency operating permit (#73021173), which expires May 5, 1993. (Rec. ¶¶ 2,3,19).

Particulate matter emissions from GCC are regulated by 35 Ill. Adm. Code 212.322 which provides, in part:

Section 212.322 Existing Process Sources

a) Except as further provided in this Part, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any existing process emission source which, either alone or in combination with the emission of particulate matter from all other similar new or existing process emission sources at a plant or premises, exceeds the allowable emission rates specified in subsection (c) and Illustrations C.

Based upon the process rates and operating hours for GCC and the formulae and parameter values from Section 212.322(b) and (c), the Agency has derived a permit limitation of 8.16 pounds per hour of particulate matter.

As part of an earlier air permit application GCC retained a consultant to do stack testing. That data, acquired in January 1990, demonstrated compliance and was submitted to the Agency. (Pet. ¶ 9; Rec. ¶ 11).

In 1992 GCC conducted roaster stack testing for particulate matter on May 19, 20, and 21. These stack tests were conducted by GCC on its own initiative, not as a result of Agency mandated testing. These stack test produced results remarkably higher than the 1990 data; they indicated non-compliance with the particulate emission limitations. GCC notified the Agency of the results and informed the Agency that it believed the May 1992 results were in error. GCC then retained another firm to conduct stack testing on October 7 and 8, 1992. These tests showed that the 1990 stack tests were based upon an incorrect stack diameter, and established non-compliance with the particulate emission limitations in the permit. (Pet. ¶ 4; Rec. ¶¶ 11-14).

GCC immediately convened a working group to determine a solution to the problem. The chosen option is to install a fabric type bag house dust collector at a total estimated project

cost of \$113,800.00. Completion of construction and start-up is anticipated by July 5, 1993. The additional tasks of debugging, stack testing, final inspection, and Agency permitting are expected to be completed by December 1, 1993. (Pet. ¶ 9; Rec. ¶ 32).

GCC is requesting a variance from the permitted level of 8.16 pounds per hour emissions of particulate matter as derived from 35 Ill. Adm. Code 212.322(a). The Agency infers that GCC is requesting an emission limit of 84.23 pounds per hour emissions of particulate matter based upon the highest average level found in recent stack tests. (Rec. ¶ 17). The area involved is not in a PM₁₀ nonattainment area, the area is no longer classified as nonattainment for particulate matter. GCC is requesting until October 1, 1993 to complete construction which will achieve compliance. The Agency believes that for so short a period of time, emissions are not likely to result in any serious environmental or public health effects (Rec. ¶ 18-20). Because the plant is not located in a nonattainment area, any variance will not be subject to approval by the U.S. Environmental Protection Agency. (Rec. ¶ 21-22).

The Board finds that GCC has presented adequate proof that immediate compliance with the particulate emission requirements would impose an arbitrary and unreasonable hardship that outweighs any adverse environmental impact. Therefore the Board will grant GCC a variance with the conditions requested by the Agency.

One additional matter is presented by the record. GCC has requested a variance from 35 Ill. Adm. Code 201.141, which provides:

Section 201.141 Prohibition of Air Pollution

No person shall cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as, either alone or in combination with contaminants from other sources, to cause or tend to cause air pollution in Illinois, or so as to violate the provisions of this Chapter, or so as to prevent the attainment or maintenance of any applicable ambient air quality standard.

Neither GCC nor the Agency have provided a rationale for variance from this regulatory provision. The provisions of Section 201.141 governing "air pollution" are far more inclusive than just particulate emissions in excess of Section 212.322(a), and GCC has not made a case for such broad relief. The provisions of Section 201.141 regarding violation of the

provisions of this Chapter will not apply to the particulate controls of Section 212.322 now that GCC has a variance. Finally, both GCC and the Agency assert that ambient air quality standards will not be threatened by GCC's emissions, and this Board has not authorized their violation by today's variance. Consequently, the Board finds no basis for relief from Section 201.141 and variance from that Section is denied.

This opinion constitutes the Board's findings of fact and conclusions of law in this matter..

ORDER

Petitioner General Chemical Corporation (Chemical Manufacturing Plant) (GCC) is hereby granted a variance from the provisions of 35 Ill. Adm. Code 212.322(a) for its facility located in Fairmont City, Canteen Township, St. Clair County, Illinois subject to the following conditions:

1. This variance shall expire on December 1, 1993.
2. The allowable emissions during the variance period shall be 84.23 pounds per hour of particulate matter, with the same process weight rate (2.8 tons per hour) and the same operating hours as currently permitted (6,384 hours per year), until thirty (30) days after the fabric baghouse dust collector and related components are installed or August 31, 1993, whichever occurs first. Thereafter, the allowable emissions rate shall be 8.16 pounds per hour of particulate matter, with the same process weight rate and operating hours as currently permitted, until the expiration of this variance.
3. Petitioner shall comply with the following conditions:
 - a. A fabric baghouse dust collector, with appropriate modifications to the stack and hardware components, shall be installed on the SAS roaster on or before August 1, 1993.
 - b. An emergency quench system with an alarm system shall be installed on the stack on or before August 1, 1993
 - c. A manometer shall be installed as part of the fabric baghouse dust collector to monitor a pressure drop across the fabric baghouse dust collector on or before August 1, 1993.
 - d. GCC shall submit progress reports to the Agency at the beginning of each month detailing all progress made towards installing and testing the fabric baghouse dust collector and other items required to be installed and listed above. These progress reports shall be signed by an authorized

officer of GCC, certifying that the progress report in question is true, correct and complete, to the best of such officer's knowledge.

e. On or before May 1, 1993, GCC shall submit to the Agency a copy of an appropriately executed and delivered purchase contract for a fabric baghouse dust collector, manometer, water quench system and related items necessary to install and operate the fabric baghouse dust collector. The contract shall be certified by an authorized officer of GCC to be true, correct and complete, and in full force and effect, to the best of such officer's knowledge.

f. On or before May 1, 1993, GCC shall submit to the Agency a copy of an appropriately executed and delivered construction or engineering contract for a fabric baghouse dust collector, manometer, water quench system and related items necessary to install and operate the fabric baghouse dust collector. The contract shall be certified by an authorized officer of GCC to be true, correct and complete, and in full force and effect, to the best of such officer's knowledge.

g. Items listed in subparagraphs (d) through (f) above shall be sent addressed as follows:

State of Illinois EPA
 Division of Legal Counsel
 2200 Churchill Road
 P.O. Box 19276
 Springfield, Illinois
 Attention: IEPA #734-92

State of Illinois/EPA
 Regional Manager/Bureau of Air
 2009 Mall Street
 Collinsville, Illinois 62234
 Attention: John Justice

4. In addition to the standard permit conditions, and any other special permit conditions the Agency may specify, GCC shall operate the Plant during the term of the variance under the following special permit conditions:

a. GCC shall maintain records of the following items, and such other items as may be appropriate, to allow the Agency to review compliance with the emission limits in Paragraph 2 above:

- (i) SAS liquor flow rate (gal/min) to the SAS Evaporation and Roasting Process;

- (ii) SAS liquor specific gravity for each shift;
and
- (iii) The hourly process weight rate for the SAS Evaporation and Roasting Process based on the SAS liquor flow rate and specific gravity.

b. The records listed in subparagraph (a) above shall be retained for two years and shall be available for inspection by the Agency.

c. On or before August 15, 1993, the particulate matter and SO₂ emissions of the SAS Evaporation and Roasting Process shall be measured by an approved testing service during conditions that are representative of maximum emissions, and a final report of the results of the tests shall be submitted to the Agency on or before September 1, 1993.

d. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Agency (Refer to 40 CFR 60, Appendix A for USEPA test methods):

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Particulate Matter	USEPA Method 5
Sulfur Dioxide	34 Ill. Adm. Code 214.101(a) (USEPA Method 6)

As part of the measurement of particulate matter emissions, GCC shall measure and report both the inorganic and organic condensable particulate matter in the USEPA Method 5 impinger catch.

e. During the above-referenced tests, the following process information shall be determined:

- (i) Process liquor flow rate, concentration and process weight rate:
- (ii) Process operating temperatures; and
- (iii) Pressure drop across the baghouse.

Process liquor feed rate, concentration, process weight rate, and process operating temperatures shall be determined based on the SAS operating log and SAS concentration feed rate record sheet. Pressure drops across the baghouse shall be measured with a permanently installed manometer as part

of the particulate matter collection system.

f. At least thirty (30) days prior to the actual date of testing, GCC shall submit a written test plan to the Agency for review and approval. This plan shall describe the specific procedures for testing, including at a minimum:

- (i) The person(s) who will be performing sampling and analysis and their experience with similar tests;
- (ii) The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;
- (iii) The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations;
- (iv) The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods
- (v) Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification;
- (vi) Any proposed use of an alternative test method, with detailed justification; and
- (vii) The format and content of the Source Test Report.

g. The SAS Evaporation and Roasting Process shall be operated during testing in accordance with normal operating practices. Process or pollution control equipment modifications prior to the tests shall be documented. The report shall include any changes that may enhance particulate matter control efficiency or reduce emissions through changes in operating conditions.

h. Prior to carrying out these tests, GCC shall notify the Agency's regional office and the Agency's Source Emission Test Specialist, at the addresses for notice set forth below, a minimum of thirty (30) days prior to the expected date of these tests and a minimum of five (5) working days prior to the test of the exact date, time and place of these tests, to enable the Agency to witness these tests.

Illinois Environmental Protection Agency
Division of Air Pollution Control - Regional Office
2009 Mall Street
Collinsville, Illinois 62234

Illinois Environmental Protection Agency
Attn: Source Emission Test Specialist
Division of Air Pollution Control
Intercontinental Center
1701 First Avenue
Maywood, Illinois 60153

- i. GCC shall submit three (3) copies of the Final Report(s) to the Agency within fourteen (14) days after the test results are compiled and finalized.
- j. GCC shall submit a copy of the Summary of Results, General Information and Conclusions, as contained in the Final Report, to the Source Emission Test Specialist.
- k. The Final Report shall include at a minimum:
 - (i) A summary of results;
 - (ii) General information;
 - (iii) Description of test methods(s), including description of sampling points, sampling train, analysis equipment, and test schedule;
 - (iv) Detailed description of test conditions;
 - (v) Process information, i.e., mode(s) of operation, process rate, e.g. fuel or raw material consumption;
 - (vi) Control equipment information, i.e., equipment condition and operating parameters during testing;
 - (vii) A discussion of any preparatory action taken, i.e., inspections, maintenance, repair, etc.;
 - (viii) Data and calculations, including copies of all raw data sheets and records of laboratory analysis, sample calculations, and data on equipment calibration; and
 - (ix) An explanation of any discrepancies among individual tests or anomalous data.

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- l. GCC shall, in accordance with the manufacturer(s)' and/or vendor(s)' recommendations, perform periodic maintenance on the pollution control equipment such that the pollution control equipment shall be kept in proper working condition and not cause a violation of the Act or regulations promulgated thereunder.
- m. GCC shall maintain an operating log for the SAS Evaporation and Roasting Process air pollution control system for the dryer, which at a minimum includes status of the SAS particulate matter control system at least one per shift, adjustments of the baghouse operating parameters, the results of inspections, and maintenance and repair activity.
- n. GCC shall perform daily inspections on the SAS Evaporation and Roasting Process and the new SAS air pollution control system for the dryer to assure proper operation of equipment.
- o. GCC shall maintain maintenance records at the Plant and the maintenance records shall be subjected to inspections by the Agency as specified in Condition Number 8 of the Agency's Standard Conditions for Operation Permits.
5. Within forty-five (45) days after the date of this order, GCC shall execute a certification of acceptance of this variance, by which it agrees to be bound by its terms and conditions, and send it to:

L.L. Kroack
 Assistant Counsel
 Bureau of Air
 Illinois Environmental Protection Agency
 P.O. Box 19276
 Springfield, Illinois 62794-9276

This forty-five (45) day period shall be held in abeyance for any period during which this matter is appealed. The form of the certification shall be as follows:

CERTIFICATION

General Chemical Corporation, having read the Order of the Illinois Pollution Control Board in PCB 92-217, understands and accepts said order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

General Chemical Corporation

By: _____
 As Authorized Agent

0141-0111

TITLE


DATE

Failure to execute and forward the Certification within 45-days renders this variance void and of no force and effect as a shield against enforcement of rules from which this variance is granted.

IT IS SO ORDERED.

Section 41 of the Environmental Protection Act, 415 ILCS 5/41 (1992)¹, provides for appeal of final Orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements. (But see also Castenada v. Illinois Human Rights Commission (1989), 132 Ill.2d 304, 547 N.E.2d 437; Strubbe v. Illinois Pollution Control Board, No. 3-92-0468, slip op. at 4-5 (3d Dist. March 15, 1993)).

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 8th day of April, 1993, by a vote of 6-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board

¹ Previously codified at Ill. Rev. Stat. 1991, ch. 111½ par. 1041.