

Minnesota Attorney General: Administrative Rules Proceedings

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Version 3
August 20, 2018

MINNESOTA STATE REGULATIONS

Notice of filing by the Commissioner of Administration

We have received on this date, stamped and filed 2 copies of Rules and Regulations pertaining to the Pollution Control (Agency or Board)

Regulation No. 15, 16, 30, 31

Subject: Standard of Performance for Sulfuric Acid Plants, Nitric Acid Plants, Emission Standard for Beryllium and Mercury

Department of Administration
Publication, Central Services Division
Documents Section
140 Centennial Office Building
St. Paul, Minnesota 55155
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FILED
RICHARD L. BRUBACHER
Commissioner of Administration

DEC 18 1975

BY Eda Staudenmaier
AUTH. SIGNATURE

3:05 PM

Stamped and filed with the Secretary of State Dec 18, 1975

Rev. 9-72

March 14, 1975

APC 30 EMISSION STANDARDS FOR BERYLLIUM

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Beryllium" means the element beryllium. Where weights or concentrations are specified, such weights or concentrations apply to beryllium only, excluding the weight or concentration of any associated elements.

(2) "Beryllium alloy" means any metal to which beryllium has been added in order to increase its beryllium content and which contains more than 0.1 percent beryllium by weight.

(3) "Beryllium-containing waste" means material contaminated with beryllium and/or beryllium compounds used or generated during any process or operation performed by a source subject to this subpart.

(4) "Beryllium facility" means an extraction plant, ceramic plant, foundry, incinerator, or propellant plant which processes beryllium ore, beryllium, beryllium oxide, beryllium alloys, or beryllium-containing wastes, or a machine shop which processes beryllium, beryllium oxides or any alloy when such alloy contains more than 5 percent beryllium by weight.

(5) "Beryllium ore" means any naturally occurring material mined or gathered for its beryllium content.

(6) "Beryllium propellant" means any propellant incorporating beryllium.

(7) "Ceramic plant" means a manufacturing plant producing ceramic items.

(8) "Extraction plant" means a facility chemically processing beryllium ore to beryllium metal, alloy, or oxide, or performing any of the intermediate steps in these processes.

(9) "Foundry" means a facility engaged in the melting or casting of beryllium metal or alloy.

(10) "Incinerator" means any furnace used in the process of burning waste for the primary purpose of reducing the volume of the waste by removing combustible matter.

(11) "Machine shop" means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, etching, or other similar operations.

(12) "Propellant" means a fuel and oxidizer physically or chemically combined which undergoes combustion to provide rocket propulsion.

(13) "Propellant plant" means any facility engaged in the mixing, casting, or machining of propellant.

(14) "Rocket motor test site" means any building, structure, facility, or installation where the static test firing of a beryllium rocket motor and/or the disposal of beryllium propellant is conducted.

(b) Emission Standards for Beryllium

(1) Beryllium Facilities. No owner or operator of a beryllium facility shall cause to be discharged into the atmosphere from such facility more than 10 grams of beryllium per 24-hour period.

(2) Burning of Beryllium. No person shall burn beryllium or beryllium-containing waste, except propellants, except in incinerators which comply with the emission standard in subsection (b)(1).

(3) Rocket Motor Test Sites. No owner or operator of a rocket motor test site shall cause to be discharged into the atmosphere from such site:

(aa) Emissions which cause time-weighted atmospheric concentrations of beryllium to exceed 75 microgram minutes per cubic meter of air within the limits of 10 to 60 minutes, accumulated during any 2 consecutive weeks, in any area in which an effect adverse to public health could occur.

(bb) More than 2 grams of beryllium per hour or more than 10 grams of beryllium per 24-hour period from a closed tank used to collect the combustion products from the firing of beryllium propellants.

(c) Emission Monitoring

(1) Beryllium Facilities

(aa) The owner or operator of a beryllium facility shall install a continuous monitoring system to determine the concentration of beryllium in the ambient air. The continuous monitoring system shall be installed at air sampling sites which have been approved by the Director and which are designed to detect the maximum concentrations of beryllium in the ambient air. The Director may require changes in, or expansion of, any sampling network.

(bb) The owner or operator of a beryllium facility shall report the concentrations measured at all sampling sites to the Director every 30 days by registered letter.

(2) Rocket Motor Test Sites

(aa) The owner or operator of a rocket motor test site shall measure the concentration of beryllium in the ambient air during and after firing of a rocket motor and during and after disposal of a beryllium propellant. Prior to the firing or disposal the owner or operator shall obtain the approval of the Director for the measuring technique which is proposed to be used. The technique shall be adequate to enable the Director to determine whether the emissions are in compliance with the standard.

(bb) If combustion products from the rocket motor firing or propellant disposal are collected in a closed tank, emissions from the tank shall be continuously sampled during release of combustion products from the tank, in such a manner to enable the Director to determine whether the emissions are in compliance with the standard.

(cc) All samples shall be analyzed and results shall be calculated within 30 days after samples are taken and before any subsequent rocket motor firing or propellant disposal at the given site. All results shall be reported to the Director by a registered letter dispatched before the close of the next business day following determination of such results.

(dd) The owner or operator of a rocket motor test site shall notify the Director in writing at least 30 days prior to a rocket motor firing or propellant disposal.

(d) Emission Test Method

Unless another method is approved by the Agency, any person required to submit emission test results for a beryllium facility or rocket motor test site shall use Method 103. Beryllium Screening Method, set forth in Appendix B to 40 C.F.R. Part 61, or Method 104. Reference Method for Determination of Beryllium Emissions from Stationary Sources, set forth in Appendix B to 40 C.F.R. Part 61.

(e) Emission Test Procedures

(1) The Director shall be notified in writing at least 30 days prior to an emission test.

(2) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in any 24-hour period. Where emissions depend upon the relative frequency of operation of different types of processes, operating hours, operating capacities, or other factors, the calculation of maximum 24-hour-period emissions shall be based on that combination of factors which is likely to occur during the subject period and which results in the maximum emissions. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until a new emission level has been estimated by calculation and the results reported to the Director.

(3) All samples shall be analyzed and beryllium emissions shall be determined within 30 days after the source test. All determinations shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

FINDINGS OF FACT
APC 30

The above-entitled matter came on for hearing before the Minnesota Pollution Control Agency (hereinafter Agency) on the 17th day of April, 1975, at 9:00 a.m. and again at 7:00 p.m. and again on the 18th day of April, 1975, at 9:00 a.m., and again on the 10th day of June, 1975, at 9:00 a.m. in the Board Room of the Agency offices, 1935 West County Road B2, Roseville, Minnesota, and again on April 23 at 9:00 a.m. in the Duluth, Minnesota, City Council Chambers in City Hall, and again on April 20, 1975, at 9:00 a.m. in the Moorhead, Minnesota, City Council Chambers in the City Hall, and again on May 1, 1975, at 9:00 a.m. at Mankato, Minnesota, at the Law Enforcement Center, 710 South Front Street, after proper notice required by Minnesota Statutes §15.0412 (1974) was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording all interested persons an opportunity to present written and oral data, statements and arguments, having considered all of the testimony, having considered all evidence adduced and upon the records, files and proceedings herein, the Agency finds the following:

1. Pursuant to Section 112 of the Clean Air Act, the United States Environmental Protection Agency has designated beryllium as a hazardous air pollutant and has promulgated national emission standards for beryllium. 40 C.F.R. Part 61, Subpart C.

2. The need for these emission standards for beryllium and the ability of industry to meet these standards has been adequately demonstrated. (PCA Exhibit 30-B at pp. 47-65.)

3. Adoption of the national emission standards for beryllium as state regulations and administration and enforcement of these standards by the state is justified. (April 18, 1975, Transcript at p. 41, June 10, 1975, Transcript at pp. 22-23, 58, and 148, Public Exhibit 17 at p. 2, Public Exhibit 18 at pp. 2-3, and Public Exhibit 21 at p. 6.)

Dated this 4th day of November, 1975.

MINNESOTA POLLUTION CONTROL AGENCY

Marion Watson
Chairwoman

Peter L. Gove
Executive Director

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

ORDER ADOPTING REGULATION APC 30

The above-entitled matter came on for hearing before the Minnesota Pollution Control Agency (hereinafter Agency) on the 17th day of April, 1975, at 9:00 a.m. and again at 7:00 p.m. and again on the 18th day of April, 1975, at 9:00 a.m., and again on the 10th day of June, 1975, at 9:00 a.m. in the Board Room of the Agency offices, 1935 West County Road B2, Roseville, Minnesota, and again on April 23 at 9:00 a.m. in the Duluth, Minnesota, City Council Chambers in City Hall, and again on April 20, 1975, at 9:00 a.m. in the Moorhead, Minnesota, City Council Chambers in the City Hall, and again on May 1, 1975, at 9:00 a.m. at Mankato, Minnesota, at the Law Enforcement Center, 710 South Front Street, after proper notice required by Minnesota Statutes §15.0412 (1974) was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording all interested persons an opportunity to present written and oral data, statements and arguments, having considered all of the testimony, having considered all evidence adduced and upon the records, files and proceedings herein, and having confirmed the need for the above-captioned regulation:

NOW, THEREFORE, IT IS ORDERED that this regulation identified as APC 30, entitled Emission Standards for Beryllium, is adopted this 4th day of November, 1975, pursuant to authority vested in the Minnesota Pollution Control Agency by Minnesota Statutes §116.07 subd. 4 (1974).

MINNESOTA POLLUTION CONTROL AGENCY

By Marion E. Watson
Marion Watson
Chairwoman

and
Peter L. Gove
Executive Director

CERTIFICATE OF AGENCY'S

ADOPTION OF RULES RESOLUTION

I, Peter L. Gove, do hereby certify that I am the Executive Director of the Minnesota Pollution Control Agency, an agency duly authorized under the laws of the State of Minnesota, and that the following is a true, complete, and correct copy of a resolution adopted at a meeting of the Agency duly and properly called and held on the 4th day of November, 1975; that a quorum was present at said meeting; that said resolution is set forth in the minutes of said meeting and has not been rescinded or modified.

> RESOLVED, that Minnesota Regulation APC 30, entitled Emission Standards for Beryllium, be and it hereby is approved and adopted, pursuant to authority vested in the Minnesota Pollution Control Agency by Minn. Stat. §116.07 subd. 4 (1974) and the Findings of Fact submitted by the staff are hereby adopted as the Findings of Fact of the Agency.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 6th day of November, 1975.

Peter L. Gove
Executive Director

Subscribed and sworn to before me this 6th day of November, 1975:

MARY E. WYATT
NOTARY PUBLIC – MINNESOTA
DAKOTA COUNTY
My Commission Expires July 30, 1981

Mary E. Wyatt
Notary Public

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

STATEMENT OF COMPLIANCE WITH RULE MAKING PROCEDURES APC 30

I, Special Assistant Attorney General Alan R. Mitchell, do hereby declare that I have examined the proposed rules entitled "Emission Standards for Beryllium," and all related documents and that, based on them and my personal familiarity with the applicable procedures, the Manual of Rule Making Procedures has been followed.

Alan R. Mitchell

Alan R. Mitchell
Special Assistant
Attorney General

Dated: November 25, 1975

March 14, 1975

APC 31 EMISSION STANDARDS FOR MERCURY

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Cell room" means a structure(s) housing one or more mercury electrolytic chlor-alkali cells.

(2) "Condenser stack gases" means the gaseous effluent evolved from the stack of processes utilizing heat to extract mercury metal from mercury ore.

(3) "Denuder" means a horizontal or vertical container which is part of a mercury chlor-alkali cell and in which water and alkali metal amalgam are converted to alkali metal hydroxide, mercury, and hydrogen gas in a short-circuited, electrolytic reaction.

(4) "End box" means a container(s) located on one or both ends of a mercury chlor-alkali electrolyzer which serves as a connection between the electrolyzer and denuder for rich and stripped amalgam.

(5) "End box ventilation system" means a ventilation system which collects mercury emissions from the end boxes, the mercury pump sumps, and their water collection systems.

(6) "Hydrogen gas stream" means a hydrogen stream formed in the chlor-alkali cell denuder.

(7) "Mercury" means the element mercury, excluding any associated elements, and includes mercury in particulates, vapors, aerosols, and compounds.

(8) "Mercury chlor-alkali cell" means a device which is basically composed of an electrolyzer section and a denuder (decomposer) section and utilizes mercury to produce chlorine gas, hydrogen gas, and alkali metal hydroxide.

(9) "Mercury chlor-alkali electrolyzer" means an electrolytic device which is part of a mercury chlor-alkali cell and utilizes a flowing mercury cathode to produce chlorine gas and alkali metal amalgam.

(10) "Mercury chlor-alkali plant" means an emission facility which uses mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide.

(11) "Mercury ore" means a mineral mined specifically for its mercury content.

(12) "Mercury ore processing facility" means a facility processing mercury ore to obtain mercury.

(13) "Sludge" means sludge produced by a treatment plant that processes municipal or industrial wastewaters.

(14) "Sludge dryer" means a device used to reduce the moisture content of sludge by heating to temperatures above 65°C (150°F) with combustion gases.

(15) "Sludge incineration and drying plant" means an emission facility which incinerates or drys wastewater treatment plant sludge.

(b) Emission Standards for Mercury

(1) Mercury ore processing facility. No owner or operator of a mercury ore processing facility shall cause to be discharged into the atmosphere from such facility more than 2,300 grams of mercury per 24-hour period.

(2) Mercury chlor-alkali plant. No owner or operator of a mercury chlor-alkali plant shall cause to be discharged into the atmosphere from such plant more than 2,300 grams of mercury per 24-hour period.

(3) Sludge incineration and drying plants. No owner or operator of a sludge incineration and drying plant shall cause to be discharged into the atmosphere from such plant more than 3,200 grams of mercury per 24-hour period.

(c) Emission Test Methods

Unless another method is approved by the Agency, any person required to submit emission test results for a mercury ore processing facility, a mercury chlor-alkali plant, or a sludge incineration and drying plant shall use Method 101. Reference Method for Determination of Particulate and Gaseous Mercury Emissions from Stationary Sources (Air Streams), set forth in Appendix B to 40 C.F.R. Part 61, or Method 102. Reference Method for Determination of Particulate and Gaseous Mercury Emissions from Stationary Sources (Hydrogen Streams), set forth in Appendix B to 40 C.F.R. Part 61, whichever is applicable. Any person required to submit emission test results for a sludge incineration and drying plant may elect to use Method 105. Method for Determination of Mercury in Wastewater Treatment Sewage Sludges, set forth in 39 Fed. Reg. 38071-38073 (1974).

(d) Emission Test Procedures

(1) The Director shall be notified in writing at least 30 days prior to an emission test.

(2) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in a 24-hour period. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until the new emission level has been estimated by calculation and the results reported to the Director.

(3) All samples shall be analyzed, and mercury emissions shall be determined within 30 days after the source test. Each determination shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

(4) Cell room emissions at a mercury chlor-alkali plant shall be determined by passing all cell room air in forced gas streams through stacks suitable for testing.

(5) In lieu of emission tests for cell room emissions at a mercury chlor-alkali plant, the owner or operator may elect to carry out design, maintenance, and housekeeping practices approved by the Director and assume that emissions from the cell room ventilation system contain 1,300 grams of mercury per day.

(6) In lieu of emission tests for sludge incineration and drying plants, the owner or operator of such a plant may elect to carry out a sludge sampling program according to Method 105. Method for Determination of Mercury in Wastewater Treatment Plant Sewage Sludges, set forth in 39 Fed. Reg. 38071-38073 (1974), and according to the procedures set forth below:

(aa) The Director shall be notified in writing at least 30 days prior to the sludge sampling test.

(bb) The sludge shall be sampled after dewatering and before incineration or drying at a location that provides a representative sample of the sludge that is normally charged to the incinerator or dryer. Eight consecutive grab samples shall be obtained at intervals of between 45 and 60 minutes and thoroughly mixed into one sample. Each of the eight grab samples shall have a volume of at least 200 ml but shall not exceed 400 ml. A total of three composite samples shall be obtained within an operating period of 24 hours. When the 24-hour operating period is not continuous, the total sampling period shall not exceed 72 hours after the first grab sample is obtained. Samples shall not be exposed to any condition that may result in mercury contamination or loss.

(cc) The maximum 24-hour period sludge incineration or drying rate shall be determined by use of a flow rate measurement device that can measure the mass rate of sludge charged to the incinerator or dryer with an accuracy of ±5 percent over its operating range. Other methods of measuring sludge mass charging rates, approved by the Director, may be used.

(dd) The handling, preparation, and analysis of sludge samples shall be accomplished according to Method 105.

(ee) The mercury emissions shall be determined by use of the following equation:

$$E_{Hg} = 1 \times 10^{-3} \; c \; Q$$

where E_{Hg} = mercury emissions, g/day

c = mercury concentration of sludge on a dry solids basis, µg/g (ppm)

Q = sludge charging rate, kg/day

(ff) No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase emissions above the level determined by the most recent sludge test, until the new emission level has been estimated by calculation and the results reported to the Director.

(gg) All sludge samples shall be analyzed for mercury content within 30 days after the sludge sample is collected. Each determination shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

FINDINGS OF FACT
APC 31

The above-entitled matter came on for hearing before the Minnesota Pollution Control Agency (hereinafter Agency) on the 17th day of April, 1975, at 9:00 a.m. and again at 7:00 p.m. and again on the 18th day of April, 1975, at 9:00 a.m., and again on the 10th day of June, 1975, at 9:00 a.m. in the Board Room of the Agency offices, 1935 West County Road B2, Roseville, Minnesota, and again on April 23 at 9:00 a.m. in the Duluth, Minnesota, City Council Chambers in City Hall, and again on April 20, 1975, at 9:00 a.m. in the Moorhead, Minnesota, City Council Chambers in the City Hall, and again on May 1, 1975, at 9:00 a.m. at Mankato, Minnesota, at the Law Enforcement Center, 710 South Front Street, after proper notice required by Minnesota Statutes §15.0412 (1974) was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording all interested persons an opportunity to present written and oral data, statements and arguments, having considered all of the testimony, having considered all evidence adduced and upon the records, files and proceedings herein, the Agency finds the following:

1. Pursuant to Section 112 of the Clean Air Act, the United States Environmental Protection Agency has designated mercury as a hazardous air pollutant and has promulgated national emission standards for mercury. 40 C.F.R. Part 61, Subpart C.

2. The need for these emissions standards for mercury and the ability of industry to meet these standards has been adequately demonstrated. (PCA Exhibit 31-A at pp. 73-90 and PCA Exhibit 31-B at pp. 66-95.)

3. Adoption of the national emission standards for mercury as state regulations and administration and enforcement of these standards by the state is justified. (April 18, 1975, Transcript at p. 41, June 10, 1975, Transcript at pp. 22-23, 58, and 148, Public Exhibit 17 at p. 2, Public Exhibit 18 at pp. 2-3, and Public Exhibit 21 at p. 6.)

Dated this 4th day of November, 1975.

MINNESOTA POLLUTION CONTROL AGENCY

Marion E. Watson

Marion Watson
Chairwoman

Peter L. Gove
Executive Director

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

ORDER ADOPTING REGULATION APC 31

The above-entitled matter came on for hearing before the Minnesota Pollution Control Agency (hereinafter Agency) on the 17th day of April, 1975, at 9:00 a.m. and again at 7:00 p.m. and again on the 18th day of April, 1975, at 9:00 a.m., and again on the 10th day of June, 1975, at 9:00 a.m. in the Board Room of the Agency offices, 1935 West County Road B2, Roseville, Minnesota, and again on April 23 at 9:00 a.m. in the Duluth, Minnesota, City Council Chambers in City Hall, and again on April 20, 1975, at 9:00 a.m. in the Moorhead, Minnesota, City Council Chambers in the City Hall, and again on May 1, 1975, at 9:00 a.m. at Mankato, Minnesota, at the Law Enforcement Center, 710 South Front Street, after proper notice required by Minnesota Statutes §15.0412 (1974) was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording all interested persons an opportunity to present written and oral data, statements and arguments, having considered all of the testimony, having considered all evidence adduced and upon the records, files and proceedings herein, and having confirmed the need for the above-captioned regulation:

NOW, THEREFORE, IT IS ORDERED that this regulation identified as APC 31, entitled Emission Standards for Mercury, is adopted this 14th day of November, 1975, pursuant to authority vested in the Minnesota Pollution Control Agency by Minnesota Statutes §116.07 subd. 4 (1974).

MINNESOTA POLLUTION CONTROL AGENCY

By Marion E. Watson
Marion Watson
Chairwoman

and
Peter L. Gove
Executive Director

CERTIFICATE OF AGENCY'S

ADOPTION OF RULES RESOLUTION

I, Peter L. Gove, do hereby certify that I am the Executive Director of the Minnesota Pollution Control Agency, an agency duly authorized under the laws of the State of Minnesota, and that the following is a true, complete, and correct copy of a resolution adopted at a meeting of the Agency duly and properly called and held on the 4th day of November, 1975; that a quorum was present at said meeting; that said resolution is set forth in the minutes of said meeting and has not been rescinded or modified.

> RESOLVED, that Minnesota Regulation APC 31, entitled Emission Standards for Mercury, be and it hereby is approved and adopted, pursuant to authority vested in the Minnesota Pollution Control Agency by Minn. Stat. §116.07 subd. 4 (1974) and the Findings of Fact submitted by the staff are hereby adopted as the Findings of Fact of the Agency.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 6th day of November, 1975.

Peter L. Gove
Executive Director

Subscribed and sworn to before me
this 6th day of November, 1975:

MARY E. WYATT
NOTARY PUBLIC — MINNESOTA
DAKOTA COUNTY
My Commission Expires July 30, 1981

Mary E. Wyatt
Notary Public

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

STATEMENT OF COMPLIANCE WITH RULE MAKING PROCEDURES APC 31

I, Special Assistant Attorney General Alan R. Mitchell, do hereby declare that I have examined the proposed rules entitled "Emission Standards for Mercury," and all related documents and that, based on them and my personal familiarity with the applicable procedures, the Manual of Rule Making Procedures has been followed.

Alan R. Mitchell

Alan R. Mitchell
Special Assistant
Attorney General

Dated: November 25, 1975

Proposed

March 14, 1975

APC 16 STANDARDS OF PERFORMANCE FOR NITRIC ACID PLANTS

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Nitric acid production unit" means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.

(2) "Weak nitric acid" means acid which is 30 to 70 percent in strength.

(b) Standards of Performance for Existing Nitric Acid Plants

(1) Prior to July 1, 1977, no owner or operator of an existing nitric acid plant shall cause to be discharged into the atmosphere from a nitric acid plant any gases which contain nitrogen oxides, expressed as NO_2, in excess of 50 pounds per ton of acid produced, the production being expressed as 100 percent nitric acid.

(2) After July 1, 1977, no owner or operator of an existing nitric acid plant shall cause to be discharged into the atmosphere from the nitric acid plant any gases which contain nitrogen oxides, expressed as NO_2, in excess of 40 pounds per ton of acid produced, the production being expressed as 100 percent nitric acid.

(3) No owner or operator of an existing nitric acid plant shall cause to be discharged into the atmosphere from

the nitric acid plant any gases which exhibit greater than 10 percent opacity, except that the provisions of APC 11 shall apply during a short process upset and the provisions of APC 21 shall apply during a shutdown or breakdown.

(c) Standards of Performance for New Nitric Acid Plants

No owner or operator of a new nitric acid plant shall cause to be discharged into the atmosphere from the nitric acid plant any gases which:

(1) Contain nitrogen oxides, expressed as NO_2, in excess of 1.5 kg per metric ton of acid produced (3.0 lb per ton), the production being expressed as 100 percent nitric acid,

(2) Exhibit greater than 10 percent opacity.

(d) Emission Monitoring

(1) The owner or operator of a nitric acid plant shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement and recording of nitrogen oxides emissions.

(2) Continuous monitoring systems for measuring nitrogen oxides emissions shall comply with Performance Specification 2.

(3) The pollutant gas used to prepare calibration gas mixtures shall be nitrogen dioxide (NO_2).

(4) The owner or operator of a nitric acid plant shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions (ppm) with the continuous monitoring system at the

same time emissions are determined by performance tests. Using emission data from the performance test and only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the performance test periods, the conversion factor shall be determined by dividing the performance test data integrated average by the continuous emission monitoring test data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data (kg/metric ton per ppm, lb/ton per ppm).

(5) The owner or operator of a nitric acid plant shall record the daily production rate and hours of operation.

(e) Performance Test Methods

(1) Method 7 for the concentration of NO_2;

(2) Method 1 for sample and velocity traverses;

(3) Method 2 for velocity and volumetric flow rate; and

(4) Method 3 for gas analysis.

(f) Performance Test Procedures

(1) For Method 7, the same site shall be selected according to Method 1 and the sampling point shall be the centroid of the stack or duct or at a point no closer to the walls than 1 m (3.28 ft). Each run shall consist of at least four grab samples taken at approximately 15-minutes intervals. The arithmetic mean of the samples shall constitute the run value. A velocity traverse shall be performed once per run.

(2) Acid production rate, expressed in metric tons per hour of 100 percent nitric acid, shall be determined during each

testing period by suitable methods and shall be confirmed by a material balance over the production system.

(3) For each run, nitrogen oxides, expressed in g/metric ton of 100 percent nitric acid, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation,

$$g/hr = Q_s \times c$$

where Q_s =volumetric flow rate of the effluent in dscm/hr, as determined in accordance with paragraph (e)(3) of this section, and c=NO_2 concentration in g/dscm, as determined in accordance with subsection (e)(1) of this regulation.

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

FINDINGS OF FACT
APC 16

The above-entitled matter came on for hearing before the Minnesota Pollution Control Agency (hereinafter Agency) on the 17th day of April, 1975, at 9:00 a.m. and again at 7:00 p.m. and again on the 18th day of April, 1975, at 9:00 a.m., and again on the 10th day of June, 1975, at 9:00 a.m. in the Board Room of the Agency offices, 1935 West County Road B2, Roseville, Minnesota, and again on April 23 at 9:00 a.m. in the Duluth, Minnesota, City Council Chambers in City Hall, and again on April 20, 1975, at 9:00 a.m. in the Moorhead, Minnesota, City Council Chambers in the City Hall, and again on May 1, 1975, at 9:00 a.m. at Mankato, Minnesota, at the Law Enforcement Center, 710 South Front Street, after proper notice required by Minnesota Statutes §15.0412 (1974) was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording all interested persons an opportunity to present written and oral data, statements and arguments, having considered all of the testimony, having considered all evidence adduced and upon the records, files and proceedings herein, the Agency finds the following:

1. St. Paul Ammonia Products, Inc. (SPAP is the only producer of nitric acid in the State of Minnesota. SPAP produces about 515 tons of nitric acid per day. SPAP operates two nitric acid plants in Rosemount (Pine Bend), Dakota County, Minnesota. (April 17, 1975, Transcript at p. 43, Statement of St. Paul Ammonia Products, Inc. at p. 1, and St. Paul Ammonia Products, Inc. Preliminary Engineering Report, September, 1974, Part 2 at p. 8.)

2. Presently Minnesota Regulation APC-16 requires control and abatement of NO_x emissions. The regulation provides that no person shall emit from a nitric acid plant more than 5.5 pounds of NO_x, expressed as NO_2, per ton of acid produced, expressed as 100% nitric acid.

3. Without control equipment, nitric acid production facilities can emit as much as 90 pounds of NO_x per ton of acid produced. Approximately 50% of this emission is in the form of nitrogen dioxide (NO_2), an opaque reddish-brown gas which is highly visible; the remainder is colorless nitric oxide (NO). (April 17, 1975, Transcript at p. 44 and PCA Exhibit 15 at p. 38.)

4. On September 11, 1972, SPAP executed a stipulation agreement with the Minnesota Pollution Control Agency. The stipulation agreement requires a two stage reduction in emissions of NO_x by SPAP.

5. SPAP completed its first stage reduction of NO_x emissions in June, 1974. This was accomplished by the installation of heat exchange equipment and use of well water to lower the

operating temperature of the absorbers, a step which calculations showed would improve the absorption of NO_x and hence reduce emissions. (SPAP Preliminary Engineering Report, June 1974, at p. 3.)

6. Emissions tests in August, 1974 determined average NO_x emissions from SPAP were 45 lbs NO_x per ton acid produced. (SPAP Preliminary Engineering Report, Part 2, September, 1974, at p. 3 and Table II.)

7. SPAP's emissions were comparable to emissions from other nitric acid plants in the U. S. An United States Environmental Protection Agency survey of nitric acid plants in the U. S. showed that most of the nitric acid plants emitted about 43 lbs NO_x per ton of acid produced, and did not have emissions abatement equipment. (PCA Exhibit 15 at p. 38).

8. SPAP evaluated the technical and economic feasibility of installing pollution abatement equipment on its two nitric acid production units, and submitted its study to the MPCA as required by the stipulation agreement. One abatement technique is the use of catalytic reactors to react nitrogen oxides to molecular nitrogen. While this is a proven method, it would require at least 1,700,000 standard cubic feet per day of natural gas to operate catalytic reactors at SPAP. This method would require a capital investment of $800,000 and has an estimated operating cost of $2.10 per ton of acid. Molecular sieve absorption of nitrogen oxides is a new and relatively costly control method. The required capital investment for SPAP is $2,100,000 and operating costs are $3.92 per ton of

acid. A third abatement method is extended absorption, in which a second absorption column using chilled water effects a reduction of NO_x emissions. Its projected capital investment requirement of $800,000 and operating cost of $2.35 per ton of acid are comparable to those of catalytic reactor abatement. The fourth abatement technology studied is the Masar absorption process, which is similar to extended absorption except that it uses an urea solution for increasing absorption efficiency. Its capital investment is $1,100,000 and operating costs are $1.83 per ton of acid, as applicable to SPAP's operations. (SPAP Preliminary Engineering Report, Part 2, September, 1974, Table V, and April 17, 1975, Transcript at p. 45.)

9. The state and national ambient air quality standard for nitrogen oxide is 0.05 ppm - annual arithmetic mean. Minn. Reg. APC 1 and 40 C.F.R. §50.11 (1974). The 1973 annual arithmetic NO_x concentration at Pine Bend was 0.032 ppm. (PCA Exhibit 25 at p. 75). The 1974 annual arithmetic NO_x concentration at Pine Bend was 0.018 ppm. (PCA Exhibit 26, data for site 420. See "Minnesota Air Quality 1974" at p. 78.)

10. The Minneapolis-St. Paul Air Quality Control Region, which was once designated a Priority I region, has now been designated a Priority III region for nitrogen dioxide by the United States Environmental Protection Agency. 40 C.F.R. §52.1221 (1974). 39 Fed. Reg. 16345 (May 8, 1974). A Priority I region for nitrogen dioxide is one which has an annual arithmetic mean concentration in excess of 0.06 ppm and a Priority III region is one which has an annual arithmetic mean concentration below 0.06 ppm. 40 C.F.R. §51.3(b)(1)(ii) (1974)

11. SPAP has agreed to install a continuous monitor for measuring nitrogen oxides emissions at its plant. (April 17, 1975, Transcript at p. 44.) The United States Environmental Protection Agency has promulgated a regulation requiring operators of existing nitric acid plants of greater than 300 tons per day production capacity to install a continuous monitor for nitrogen oxides emissions. 40 Fed. Reg. 46248 (October 6, 1975).

12. Pursuant to Section 111 of the Clean Air Act, the United States Environmental Protection Agency has promulgated standards of performance for certain new facilities, including new nitric acid plants. 40 C.F.R. Part 60 Subpart G. These new source performance standards are based on results of source tests conducted by the Environmental Protection Agency and local agencies, on data derived from available technical literature, on information gathered during visits by the Environmental Protection Agency to pollution control agencies and plants in the United States and abroad, and comments and suggestions solicited from experts. (PCA Exhibit 15 at p. 45 and various issues of the Federal Register promulgating the standards.)

13. Emission control systems capable of meeting the federal standards have been adequately demonstrated and these standards are achievable at reasonable costs. (Various issues of the Federal Register promulgating the standards.)

14. Adoption of the federal new source performance standards as state regulations and administration and enforcement of these standards by the state is justified. (April 18, 1975, Transcript

at p. 41, June 10, 1975, Transcript at pp. 23, 58 and 148, Public Exhibit 17 at p. 2, Public Exhibit 18 at pp. 2-3, and Public Exhibit 21 at p. 6.)

Dated this 4th day of November, 1975.

MINNESOTA POLLUTION CONTROL AGENCY

Peter L. Gove
Executive Director

Marion H. Watson
Marion Watson
Chairwoman

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

ORDER ADOPTING AMENDMENT TO REGULATION APC 16

The above-entitled matter came on for hearing before the Minnesota Pollution Control Agency (hereinafter Agency) on the 17th day of April, 1975, at 9:00 a.m. and again at 7:00 p.m. and again on the 18th day of April, 1975, at 9:00 a.m., and again on the 10th day of June, 1975, at 9:00 a.m. in the Board Room of the Agency offices, 1935 West County Road B2, Roseville, Minnesota, and again on April 23 at 9:00 a.m. in the Duluth, Minnesota, City Council Chambers in City Hall, and again on April 20, 1975, at 9:00 a.m. in the Moorhead, Minnesota, City Council Chambers in the City Hall, and again on May 1, 1975, at 9:00 a.m. at Mankato, Minnesota, at the Law Enforcement Center, 710 South Front Street, after proper notice required by Minnesota Statutes §15.0412 (1974) was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording all interested persons an opportunity to present written and oral data, statements and arguments, having considered all of the testimony, having considered all evidence adduced and upon the records, files and proceedings herein, and having confirmed the need for the above-captioned amendment:

NOW, THEREFORE, IT IS ORDERED that the amendment dated October 28, 1975 to this regulation identified as APC 16, entitled Standards of Performance for Nitric Acid Plants, is adopted this 4th day of November, 1975, pursuant to authority vested in the Minnesota Pollution Control Agency by Minnesota Statutes §116.07 subd. 4 (1974).

MINNESOTA POLLUTION CONTROL AGENCY

By Marion E. Watson
Marion Watson
Chairwoman

and
Peter L. Gove
Executive Director

CERTIFICATE OF AGENCY'S

ADOPTION OF RULES RESOLUTION

I, Peter L. Gove, do hereby certify that I am the Executive Director of the Minnesota Pollution Control Agency, an agency duly authorized under the laws of the State of Minnesota, and that the following is a true, complete, and correct copy of a resolution adopted at a meeting of the Agency duly and properly called and held on the 4th day of November, 1975; that a quorum was present at said meeting; that said resolution is set forth in the minutes of said meeting and has not been rescinded or modified.

> RESOLVED, that the amendment to Minnesota Regulation APC 16, entitled Standards of Performance for Nitric Acid Plants, dated October 28, 1975, be and it hereby is approved and adopted, pursuant to authority vested in the Minnesota Pollution Control Agency by Minn. Stat. §116.07 subd. 4 (1974) and the Findings of Fact submitted by the staff are hereby adopted as the Findings of Fact of the Agency.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 6th day of November, 1975.

Peter L. Gove
Executive Director

Subscribed and sworn to before me
this 6th day of November, 1975.

MARY E. WYATT
NOTARY PUBLIC – MINNESOTA
DAKOTA COUNTY
My Commission Expires July 30, 1981

Mary E. Wyatt
Notary Public

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

STATEMENT OF COMPLIANCE WITH RULE MAKING PROCEDURES APC 16

I, Special Assistant Attorney General Alan R. Mitchell, do hereby declare that I have examined the proposed rules entitled "Standards of Performance for Nitric Acid Plants," and all related documents and that, based on them and my personal familiarity with the applicable procedures, the Manual of Rule Making Procedures has been followed.

Alan R. Mitchell

Alan R. Mitchell
Special Assistant
Attorney General

Dated: November 25, 1975

Proposed
March 14, 1975

APC 15 SULFURIC ACID PLANT EMISSION

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Sulfuric acid production unit": Means any emission facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(b) Standards of Performance for Existing Sulfuric Acid Production Units

(1) Prior to June 1, 1975, no owner or operator of an existing sulfuric acid production unit shall cause or allow the discharge into the atmosphere of gases which contain sulfur dioxide in excess of 84 pounds per ton of acid produced, the production being expressed as 100 percent H_2SO_4.

(2) After June 1, 1975, and before July 1, 1977, no owner or operator of an existing sulfuric acid production unit shall cause or allow the discharge into the atmosphere of gases which contain sulfur dioxide in excess of 42 pounds per ton of acid produced, production being expressed as 100 percent H_2SO_4.

(3) After July 1, 1977, no owner or operator of an existing sulfuric acid production unit shall cause or allow the discharge into the atmosphere of gases which contain sulfur dioxide in excess of 30 pounds per ton of acid produced, production being expressed as 100 percent H_2SO_4.

(4) No owner or operator of an existing sulfuric acid production unit shall cause or allow the discharge into the atmosphere of any gases which contain acid mist, expressed as H_2SO_4, in excess of 1.70 pounds per ton of acid produced, the production being expressed as 100 percent H_2SO_4.

(c) Standards of Performance for New Sulfuric Acid Production Units

(1) No owner or operator of a new sulfuric acid production unit shall cause or allow the discharge into the atmosphere of gases which contain sulfur dioxide in excess of 4 pounds per ton of acid produced, the production being expressed as 100 percent H_2SO_4.

(2) No owner or operator of a new sulfuric acid production unit shall cause or allow the discharge into the atmosphere of any gases which contain acid mist, expressed as H_2SO_4, in excess of 0.15 pounds per ton of acid produced, the production being expressed as 100 percent H_2SO_4; or gases which exhibit 10 percent opacity, or greater. Where the presence of uncombined water is the only reason for failure to meet the opacity requirements of this subsection, such failure shall not be a violation of this requirement.

(d) Continuous Emission Monitoring

(1) The owner or operator of a sulfuric acid production unit shall install, calibrate, maintain, and operate an instrument for continuously monitoring and recording emissions of sulfur dioxide.

(2) The instrument and sampling system installed and used pursuant to this section shall be capable of monitoring emission levels within $\pm$ 20 percent with a confidence level of 95 percent and shall be calibrated in accordance with the method(s) prescribed by the manufacturer(s) of such instrument as often as deemed necessary by the Agency.

(3) The owner or operator of a sulfuric acid production unit shall record daily the production rate and hours of operation.

(4) The owner or operator of a sulfuric acid production unit shall record the continuous monitoring measurements of sulfur dioxide emissions and convert the measurements to pounds of sulfur dioxide per ton of acid produced. The measurements shall be recorded daily and summarized monthly. The record of any such measurements and summary shall be retained for at least two years following the date of such measurements and summaries. The measurements and summaries shall be submitted to the Agency upon request.

(e) Performance Test Methods

Unless another method is approved by the Director, any person required to submit performance tests for a sulfuric acid production unit shall utilize the following test methods:

(1) Method 8 for the concentrations of SO_2 and acid mist;

(2) Method 1 for sample and velocity traverses;

(3) Method 2 for velocity and volumetric flow rate; and

(4) Method 3 for gas analysis.

(f) Performance Test Procedures

(1) In testing for sulfur dioxide and acid mist, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 1.15 dscm (40.6 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Agency.

(2) Acid production rate, expressed in tons per hour of 100 percent H_2SO_4, shall be determined during each testing period by a suitable method approved by the Agency. The Agency may require the production rate to be confirmed by a material balance over the production system.

(3) Unless the Director approves another method, acid mist and sulfur dioxide emissions, expressed in pounds per ton of 100 percent H_2SO_4, shall be determined by dividing the emission rate in lb/hr by the acid production rate. The emission rate shall be determined by the equation, lb/hr = Q_s x c, where Q_s = volumetric flow rate of the effluent in dscf/hr as determined in accordance with subsection (e)(3), and c = acid mist and sulfur dioxide concentrations in lb/ft^3 as determined in accordance with subsection (e)(1).

(g) Exceptions

Shutdowns and breakdowns of control equipment and process equipment at any sulfuric acid production unit shall be governed by the provisions of APC 21.

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

ORDER ADOPTING AMENDMENT TO REGULATION APC 15

The above-entitled matter came on for hearing before the Minnesota Pollution Control Agency (hereinafter Agency) on the 17th day of April, 1975, at 9:00 a.m. and again at 7:00 p.m. and again on the 18th day of April, 1975, at 9:00 a.m., and again on the 10th day of June, 1975, at 9:00 a.m. in the Board Room of the Agency offices, 1935 West County Road B2, Roseville, Minnesota, and again on April 23 at 9:00 a.m. in the Duluth, Minnesota, City Council Chambers in City Hall, and again on April 20, 1975, at 9:00 a.m. in the Moorhead, Minnesota, City Council Chambers in the City Hall, and again on May 1, 1975, at 9:00 a.m. at Mankato, Minnesota, at the Law Enforcement Center, 710 South Front Street, after proper notice required by Minnesota Statutes §15.0412 (1974) was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording all interested persons an opportunity to present written and oral data, statements and arguments, having considered all of the testimony, having considered all evidence adduced and upon the records, files and proceedings herein, and having confirmed the need for the above-captioned amendment:

NOW, THEREFORE, IT IS ORDERED that the amendment dated October 23, 1975, to this regulation identified as APC 15, entitled Standards of Performance for Sulfuric Acid Plants, is adopted this 4th day of November, 1975, pursuant to authority vested in the Minnesota Pollution Control Agency by Minnesota Statutes §116.07 subd. 4 (1974).

MINNESOTA POLLUTION CONTROL AGENCY

By Marion E. Watson
Marion Watson
Chairwoman

and
Peter L. Gove
Executive Director

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

FINDINGS OF FACT APC 15

The above-entitled matter came on for hearing before the Minnesota Pollution Control Agency (hereinafter Agency) on the 17th day of April, 1975, at 9:00 a.m. and again at 7:00 p.m. and again on the 18th day of April, 1975, at 9:00 a.m., and again on the 10th day of June, 1975, at 9:00 a.m. in the Board Room of the Agency offices, 1935 West County Road B2, Roseville, Minnesota, and again on April 23 at 9:00 a.m. in the Duluth, Minnesota, City Council Chambers in City Hall, and again on April 20, 1975, at 9:00 a.m. in the Moorhead, Minnesota, City Council Chambers in the City Hall, and again on May 1, 1975, at 9:00 a.m. at Mankato, Minnesota, at the Law Enforcement Center, 710 South Front Street, after proper notice required by Minnesota Statutes §15.0412 (1974) was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording all interested persons an opportunity to present written and oral data, statements and arguments, having considered all of the testimony, having considered all evidence adduced and upon the records, files and proceedings herein, the Agency finds the following:

1. North Star Chemicals, Inc., is the only producer of industrial sulfuric acid in the State of Minnesota. North Star Chemicals produces about 215 tons of 99.0+% acid per day. The

plant is located in Rosemount (Pine Bend), Dakota County, Minnesota. (PCA Exhibits 15-A at p. 1, 15-B at pp. 1-2 and 15-C at p. 1.)

2. Presently Minnesota Regulation APC 15 requires control and abatement of SO_2 emissions and acid mist emissions. The regulation provides that North Star Chemicals shall not emit more than 6.5 pounds of SO_2 per ton of acid produced or more than 1.7 pounds of acid mist per ton of acid produced.

3. North Star Chemicals installed an acid mist eliminator in 1971, which results in an emission of acid mist of 0.6 pounds per ton of acid produced. Prior to June 1, 1975, North Star Chemicals was emitting 84 pounds of SO_2 per ton of acid produced for a total of 9 tons of SO_2 per day. This was 14.6% of the total SO_2 emitted in the Pine Bend area. (PCA Exhibit 15-A at p. 1.)

4. In July, 1972, North Star Chemicals petitioned the Minnesota Pollution Control Agency to revise Minn. Reg. APC 15, or in the alternative, to grant the company a variance. Two days of hearing on the petition were held in September, 1972. Through the remainder of 1972 and in 1973 and 1974, North Star Chemicals, in cooperation with the Minnesota Pollution Control Agency and others, investigated the feasibility of installing presently available systems of SO_2 control to meet the requirements of APC 15. (PCA Exhibit 15-C.)

5. North Star Chemicals determined that the capital investment costs necessary to meet the requirements of APC 15 would approach $1,000,000, which would require an increase in the cost of acid of $2.00 to $3.00 per ton. (PCA Exhibit 15-A at p. 1.)

6. In 1974 North Star Chemicals proposed an abatement program that would cut its SO_2 emissions per ton in half by June 1,

1975, to 42 pounds SO_2 per ton of acid produced, and further reduce its emissions to 30 pounds SO_2 per ton of acid produced by June 1, 1977. (PCA Exhibit 15-A at pp. 2-3 and PCA Exhibit 15-B.)

7. In August, 1974, the hearing was terminated by stipulation of the parties and a stipulation agreement was entered into between North Star Chemicals and the Minnesota Pollution Control Agency. North Star Chemicals agreed to undertake an abatement program to reduce its emissions of SO_2 to 42 pounds per ton by June 1, 1975, and to 30 pounds per ton by June 1, 1977. North Star Chemicals further agreed to undertake necessary action to meet ambient air quality standards if this program was not adequate to meet the standards and to continue to evaluate new methods of SO_2 control. (PCA Exhibits 15-B and 15-C.)

8. To offset the costs of its air pollution abatement program, North Star Chemicals may increase its production to 300 tons per day. (PCA Exhibit 15-A at p. 2.)

9. North Star Chemicals has agreed to install a continuous SO_2 monitor at its plant, regardless of the capacity. (PCA Exhibit 15-C at p. 4.) The United States Environmental Protection Agency has promulgated a regulation requiring operators of existing sulfuric acid plants of greater than 300 tons per day production capacity to install continuous SO_2 monitors. 40 Fed. Reg. 46248 (October 6, 1975).

10. The State of Iowa has amended its sulfuric acid regulation to require operators of sulfuric acid plants to control SO_2 emissions to 30 pounds per ton of acid produced. Iowa Departmental Rules, Environmental Quality Department 4.3(3)b.

11. Pursuant to Section 111 of the Clean Air Act, the United States Environmental Protection Agency has promulgated standards of performance for certain new facilities, including new sulfuric acid plants. 40 C.F.R. Part 60 Subpart H. These new source performance standards are based on results of source tests conducted by the Environmental Protection Agency and local agencies, on data derived from available technical literature, on information gathered during visits by the Environmental Protection Agency to pollution control agencies and plants in the United States and abroad, and comments and suggestions solicited from experts. (PCA Exhibit 15 at p. 45 and various issues of the Federal Register promulgating the standards.)

12. Emission control systems capable of meeting the federal standards have been adequately demonstrated and these standards are achievable at reasonable costs. (Various issues of the Federal Register promulgating the standards.)

13. Adoption of the federal new source performance standards as state regulations and administration and enforcement of these standards by the state is justified. (April 18, 1975, Transcript at p. 41, June 10, 1975, Transcript at pp. 23, 58 and 148, Public Exhibit 17 at p. 2, Public Exhibit 18 at pp. 2-3, and Public Exhibit 21 at p. 6.)

Dated this 4th day of November, 1975.

MINNESOTA POLLUTION CONTROL AGENCY

Marion E Watson
Marion Watson
Chairwoman

Peter L. Gove
Executive Director

CERTIFICATE OF AGENCY'S

ADOPTION OF RULES RESOLUTION

I, Peter L. Gove, do hereby certify that I am the Executive Director of the Minnesota Pollution Control Agency, an agency duly authorized under the laws of the State of Minnesota, and that the following is a true, complete, and correct copy of a resolution adopted at a meeting of the Agency duly and properly called and held on the 4th day of November, 1975; that a quorum was present at said meeting; that said resolution is set forth in the minutes of said meeting and has not been rescinded or modified.

> RESOLVED, that the amendment to Minnesota Regulation APC 15, entitled Standards of Performance for Sulfuric Acid Plants, dated October 23, 1975, be and it hereby is approved and adopted, pursuant to authority vested in the Minnesota Pollution Control Agency by Minn. Stat. §116.07 subd. 4 (1974) and the Findings of Fact submitted by the staff are hereby adopted as the Findings of Fact of the Agency.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 4th day of November, 1975.

Peter L. Gove
Executive Director

Subscribed and sworn to before me
this 4th day of November, 1975:

MARY E. WYATT
NOTARY PUBLIC – MINNESOTA
DAKOTA COUNTY
My Commission Expires July 30, 1981

Mary E. Wyatt
Notary Public

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

STATEMENT OF COMPLIANCE WITH RULE MAKING PROCEDURES APC 15

I, Special Assistant Attorney General Alan R. Mitchell, do hereby declare that I have examined the proposed rules entitled "Standards of Performance for Sulfuric Acid Plants," and all related documents and that, based on them and my personal familiarity with the applicable procedures, the Manual of Rule Making Procedures has been followed.

Alan R. Mitchell

Alan R. Mitchell
Special Assistant
Attorney General

Dated: November 25, 1975

 Adopted

APC 15 STANDARDS OF PERFORMANCE FOR SULFURIC ACID PLANTS

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Sulfuric acid production unit:" Means any emission facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(2) "Acid Mist:" Means sulfuric acid mist as measured by Method 8.

(b) Standards of Performance of Existing Sulfuric Acid Production Units

(1) Prior to July 1, 1977, no owner or operator of an existing sulfuric acid production unit shall cause to be discharged into the atmosphere from any sulfuric acid production unit any gases which contain sulfur dioxide in excess of 42 pounds per ton of acid produced (21 kg per metric ton), production being expressed as 100 percent H_2SO_4.

(2) After July 1, 1977, no owner or operator of an existing sulfuric acid production unit shall cause to be discharged into the atmosphere from any sulfuric acid production unit any gases which contain sulfur dioxide in excess of 30 pounds per ton of acid produced (15 kg per metric ton), production being expressed as 100 percent H_2SO_4.

(3) No owner or operator of an existing sulfuric acid production unit shall cause to be discharged into the atmosphere from any sulfuric acid production unit any gases which contain acid mist, expressed as H_2SO_4, in excess of 1.70 pounds per ton of acid produced (0.85 kg per metric ton), the production being expressed as 100 percent H_2SO_4.

(c) Standards of Performance for New Sulfuric Acid Production Units

(1) No owner or operator of a new sulfuric acid production unit shall cause to be discharged into the atmosphere from any sulfuric acid production unit any gases which contain sulfur dioxide in excess of 4 pounds per ton of acid produced (2 pounds per metric ton), the production being expressed as 100 percent H_2SO_4.

(2) No owner or operator of a new sulfuric acid production unit shall cause to be discharged into the atmosphere from any sulfuric acid production unit any gases which:

(i) Contain acid mist, expressed as H_2SO_4, in excess of 0.15 pounds per ton of acid produced (0.075 kg per metric ton), the production being expressed as 100 percent H_2SO_4; or

(ii) Exhibit 10 percent opacity, or greater.

(d) Continuous Emission Monitoring

(1) The owner or operator of a sulfuric acid production unit shall install, calibrate, maintain, and operate an instrument for continuously monitoring and recording emissions of sulfur dioxide.

(2) The pollutant gas used to prepare calibration gas mixtures and for calibration checks shall be sulfur dioxide.

(3) When conducting monitoring system performance evaluations only the sulfur dioxide portion of the Method 8 results shall be used.

(4) The span shall be set at 1,000 ppm of sulfur dioxide.

(5) The owner or operator of a sulfuric acid production unit shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each eight-hour period as follows:

$$CF = k\left[\frac{1{,}000 - 0.015r}{r - s}\right]$$

where:

CF = conversion factor (kg/metric ton per ppm, lb/short ton per ppm).

k = constant derived from material balance. For determining CF in metric units, k = 0.0653. For determining CF in English units, k = 0.1306.

s = percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection

s = percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under paragraph (d) (1) of this regulation.

(6) The owner or operator of a sulfuric acid production unit shall record all conversion factors and values under subparagraph (5) above, i.e., CF, r, and s.

(7) The owner or operator of a sulfuric acid production unit shall record daily the production rate and hours of operation.

(8) For the purpose of reports under APC-21(c)(1)(bb)(ii), periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under this regulation.

(e) Performance Test Methods

Unless another method is approved by the Director, any person required to submit performance tests for a sulfuric acid production unit shall utilize the following test methods:

(1) Method 8 for the concentrations of SO_2 and acid mist;

(2) Method 1 for sample and velocity traverses;

(3) Method 2 for velocity and volumetric flow rate; and

(4) Method 3 for gas analysis.

(f) Performance Test Procedures

(1) In testing for sulfur dioxide and acid mist, the sampling time for each run shall be at least 60 minutes and the minimum

sample volume shall be 40.6 dscf (1.15 dscm) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Agency.

(2) Acid production rate, expressed in tons per hour of 100 percent H_2SO_4, shall be determined during each testing period by a suitable method approved by the Agency. The Agency may require the production rate to be confirmed by a material balance over the production system.

(3) Unless the Director approves another method, acid mist and sulfur dioxide emissions, expressed in pounds per ton of 100 percent H_2SO_4, shall be determined by dividing the emission rate in lb/hr (g/hr) by the acid production rate. The emission rate shall be determined by the equation, lb/hr = Q_s x c, where Q_s = volumetric flow rate of the effluent in dscf/hr (dscm/hr) as determined in accordance with subsection (e)(3), and c = acid mist and sulfur dioxide concentrations in lb/dscf (g/dscm) as determined in accordance with subsection (e)(1).

(g) Exceptions

Shutdowns and breakdowns of control equipment and process equipment at any sulfuric acid production unit shall be governed by the provisions of APC 21.

APC 16 STANDARDS OF PERFORMANCE FOR NITRIC ACID PLANTS

Adopted

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Nitric acid production unit" means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.

(2) "Weak nitric acid" means acid which is 30 to 70 percent in strength.

(b) Standards of Performance for Existing Nitric Acid Production Units

(1) Prior to July 1, 1977, no owner or operator of an existing nitric acid production unit shall cause to be discharged into the atmosphere from any nitric acid production unit any gases which contain nitrogen oxides, expressed as NO_2, in excess of 50 pounds per ton of acid produced (25 kg per metric ton), the production being expressed as 100 percent nitric acid.

(2) After July 1, 1977, no owner or operator of an existing nitric acid production unit shall cause to be discharged into the atmosphere from any nitric acid production unit any gases which contain nitrogen oxides, expressed as NO_2, in excess of 40 pounds per ton of acid produced (20 kg per metric ton), the production being expressed as 100 percent nitric acid.

(3) No owner or operator of an existing nitric acid production unit shall cause to be discharged into the atmosphere from any nitric acid production unit any gases which exhibit greater than 10 percent opacity.

(c) Standards of Performance for New Nitric Acid Production Units

No owner or operator of a new nitric acid production unit shall cause to be discharged into the atmosphere from the nitric acid production unit any gases which:

(1) Contain nitrogen oxides, expressed as NO_2, in excess of 3.0 lb. per ton of acid produced (1.5 kg per metric ton), the production being expressed as 100 percent nitric acid;

(2) Exhibit 10 percent opacity, or greater.

(d) Emission Monitoring

(1) The owner or operator of a nitric acid production unit shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement and recording of nitrogen oxides emissions.

(2) The pollutant gas used to prepare calibration gas mixtures and for calibration checks shall be nitrogen dioxide (NO_2).

(3) Reference Method 7 shall be used for conducting monitoring system performance evaluations.

(4) The span shall be set at 500 ppm of nitrogen dioxide.

(5) The owner or operator of a nitric acid plant shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests.

Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., (kg/metric ton per ppm, lb/ton per ppm). The conversion factor shall be reestablished during any performance test or any continuous monitoring system performance evaluation.

(6) The owner or operator of a nitric acid production unit shall record the daily production rate and hours of operation.

(7) For the purpose of reports under APC-21(c)(1)(bb)(ii), periods of excess emissions that shall be reported are defined as any three-hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous one-hour periods) as measured by a continuous monitoring system exceed the applicable standards under this regulation.

(e) Performance Test Methods

Unless another method is approved by the Director, any person required to submit performance tests for a nitric acid production unit shall utilize the following test methods:

(1) Method 7 for the concentration of NO_2;

(2) Method 1 for sample and velocity traverses;

(3) Method 2 for velocity and volumetric flow rate; and

(4) Method 3 for gas analysis.

(f) Performance Test Procedures

(1) For Method 7, the same site shall be selected according to Method 1 and the sampling point shall be the centroid of the stack or duct or at a point no closer to the walls than 1 m (3.28 ft). Each run shall consist of at least four grab samples taken at approximately 15-minutes intervals. The arithmetic mean of the samples shall constitute the run value. A velocity traverse shall be performed once per run.

(2) Acid production rate, expressed in metric tons per hour of 100 percent nitric acid, shall be determined during each testing period by suitable methods and shall be confirmed by a material balance over the production system.

(3) For each run, nitrogen oxides, expressed in lb/ton of 100 percent nitric acid (g/metric ton), shall be determined by dividing the emission rate in lb/hr (g/hr) by the acid production rate. The emission rate shall be determined by the equation,

$$\text{lb/hr} = Q_s \times c$$

where Q_s =volumetric flow rate of the effluent in dscf/hr (dscm/hr), as determined in accordance with paragraph (e)(3) of this section, and $c=NO_2$ concentration in lb/dscf (g/dscm), as determined in accordance with subsection (e)(1) of this regulation.

APC 30 EMISSION STANDARDS FOR BERYLLIUM

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Beryllium" means the element beryllium. Where weights or concentrations are specified, such weights or concentrations apply to beryllium only, excluding the weight or concentration of any associated elements.

(2) "Beryllium alloy" means any metal to which beryllium has been added in order to increase its beryllium content and which contains more than 0.1 percent beryllium by weight.

(3) "Beryllium-containing waste" means material contaminated with beryllium and/or beryllium compounds used or generated during any process or operation performed by a source subject to this regulation.

(4) "Beryllium facility" means an extraction plant, ceramic plant, foundry, incinerator, or propellant plant which processes beryllium ore, beryllium, beryllium oxide, beryllium alloys, or beryllium-containing wastes, or a machine shop which processes beryllium, beryllium oxides or any alloy when such alloy contains more than 5 percent beryllium by weight.

(5) "Beryllium ore" means any naturally occurring material mined or gathered for its beryllium content.

(6) "Beryllium propellant" means any propellant incorporating beryllium.

(7) "Ceramic plant" means a manufacturing plant producing ceramic items.

(8) "Extraction plant" means a facility chemically processing beryllium ore to beryllium metal, alloy, or oxide, or performing any of the intermediate steps in these processes.

(9) "Foundry" means a facility engaged in the melting or casting of beryllium metal or alloy.

(10) "Incinerator" means any furnace used in the process of burning waste for the primary purpose of reducing the volume of the waste by removing combustible matter.

(11) "Machine shop" means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, etching, or other similar operations.

(12) "Propellant" means a fuel and oxidizer physically or chemically combined which undergoes combustion to provide rocket propulsion.

(13) "Propellant plant" means any facility engaged in the mixing, casting, or machining of propellant.

(14) "Rocket motor test site" means any building, structure, facility, or installation where the static test firing of a beryllium rocket motor and/or the disposal of beryllium propellant is conducted.

(b) Emission Standards for Beryllium

(1) Beryllium Facilities. No owner or operator of a beryllium facility shall cause to be discharged into the atmosphere from such facility more than 10 grams of beryllium per 24-hour period.

(2) Burning of Beryllium. No person shall burn beryllium or beryllium-containing waste, except propellants, except in incinerators which comply with the emission standard in subsection (b)(1).

(3) Rocket Motor Test Sites. No owner or operator of a rocket motor test site shall cause to be discharged into the atmosphere from such site:

(aa) Emissions which cause time-weighted atmospheric concentrations of beryllium to exceed 75 microgram minutes per cubic meter of air within the limits of 10 to 60 minutes, accumulated during any 2 consecutive weeks, in any area in which an effect adverse to public health could occur.

(bb) More than 2 grams of beryllium per hour or more than 10 grams of beryllium per 24-hour period from a closed tank used to collect the combustion products from the firing of beryllium propellants, if such a tank is used.

(c) Emission Monitoring

(1) Beryllium Facilities

(aa) The owner or operator of a beryllium facility shall install a continuous monitoring system to determine the concentration of beryllium in the ambient air. The continuous monitoring system shall be installed at air sampling sites which have been approved by the Director and which are designed to detect the maximum concentrations of beryllium in the ambient air. The Director may require changes in, or expansion of, any sampling network.

(bb) The owner or operator of a beryllium facility shall report the concentrations measured at all sampling sites to the Director every 30 days by registered letter.

(2) Rocket Motor Test Sites

(aa) The owner or operator of a rocket motor test site shall measure the concentration of beryllium in the ambient air during and after firing of a rocket motor and during and after disposal of a beryllium propellant. Prior to the firing or disposal the owner or operator shall obtain the approval of the Director for the measuring technique which is proposed to be used. The technique shall be adequate to enable the Director to determine whether the emissions are in compliance with the standard.

(bb) If combustion products from the rocket motor firing or propellant disposal are collected in a closed tank, emissions from the tank shall be continuously sampled during release of combustion products from the tank, in such a manner to enable the Director to determine whether the emissions are in compliance with the standard.

(cc) All samples shall be analyzed and results shall be calculated within 30 days after samples are taken and before any subsequent rocket motor firing or propellant disposal at the given site. All results shall be reported to the Director by a registered letter dispatched before the close of the next business day following determination of such results.

(dd) The owner or operator of a rocket motor test site shall notify the Director in writing at least 30 days prior to a rocket motor firing or propellant disposal.

(d) Performance Test Method

Unless another method is approved by the Agency, any person required to submit performance test results for a beryllium facility or rocket motor test site shall use Method 103 (Beryllium Screening Method), set forth in Appendix B to 40 C.F.R. Part 61, or Method 104 (Reference Method for Determination of Beryllium Emissions from Stationary Sources), set forth in Appendix B to 40 C.F.R. Part 61.

(e) Performance Test Procedures

(1) The Director shall be notified in writing at least 30 days prior to an emission test.

(2) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in any 24-hour period. Where emissions depend upon the relative frequency of operation of different types of processes, operating hours, operating capacities, or other factors, the calculation of maximum 24-hour-period emissions shall be based on that combination of factors which is likely to occur during the subject period and which results in the maximum emissions. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until a new emission level has been estimated by calculation and the results reported to the Director.

(3) All samples shall be analyzed and beryllium emissions shall be determined within 30 days after the source test. All determinations shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

APC 31 EMISSION STANDARDS FOR MERCURY

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Cell room" means a structure(s) housing one or more mercury electrolytic chlor-alkali cells.

(2) "Condenser stack gases" means the gaseous effluent evolved from the stack of processes utilizing heat to extract mercury metal from mercury ore.

(3) "Denuder" means a horizontal or vertical container which is part of a mercury chlor-alkali cell and in which water and alkali metal amalgam are converted to alkali metal hydroxide, mercury, and hydrogen gas in a short-circuited, electrolytic reaction.

(4) "End box" means a container(s) located on one or both ends of a mercury chlor-alkali electrolyzer which serves as a connection between the electrolyzer and denuder for rich and stripped amalgam.

(5) "End box ventilation system" means a ventilation system which collects mercury emissions from the end boxes, the mercury pump sumps, and their water collection systems.

(6) "Hydrogen gas stream" means a hydrogen stream formed in the chlor-alkali cell denuder.

(7) "Mercury" means the element mercury, excluding any associated elements, and includes mercury in particulates, vapors, aerosols, and compounds.

(8) "Mercury chlor-alkali cell" means a device which is basically composed of an electrolyzer section and a denuder (decomposer) section and utilizes mercury to produce chlorine gas, hydrogen gas, and alkali metal hydroxide.

(9) "Mercury chlor-alkali electrolyzer" means an electrolytic device which is part of a mercury chlor-alkali cell and utilizes a flowing mercury cathode to produce chlorine gas and alkali metal amalgam.

(10) "Mercury chlor-alkali plant" means an emission facility which uses mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide.

(11) "Mercury ore" means a mineral mined specifically for its mercury content.

(12) "Mercury ore processing facility" means a facility processing mercury ore to obtain mercury.

(13) "Sludge" means sludge produced by a treatment plant that processes municipal or industrial wastewaters.

(14) "Sludge dryer" means a device used to reduce the moisture content of sludge by heating to temperatures above 65°C (150°F) with combustion gases.

(15) "Sludge incineration and drying plant" means an emission facility which incinerates or drys wastewater treatment plant sludge.

(b) Emission Standards for Mercury

(1) Mercury ore processing facility. No owner or operator of a mercury ore processing facility shall cause to be discharged into the atmosphere from such facility more than 2,300 grams of mercury per 24-hour period.

(2) Mercury chlor-alkali plant. No owner or operator of a mercury chlor-alkali plant shall cause to be discharged into the atmosphere from such plant more than 2,300 grams of mercury per 24-hour period.

(3) Sludge incineration and drying plants. No owner or operator of a sludge incineration and drying plant shall cause to be discharged into the atmosphere from such plant more than 3,200 grams of mercury per 24-hour period.

(c) Performance Test Methods

Unless another method is approved by the Agency, any person required to submit performance test results for a mercury ore processing facility, a mercury chlor-alkali plant, or a sludge incineration and drying plant shall use Method 101(Reference Method for Determination of Particulate and Gaseous Mercury Emissions from Stationary Sources (Air Streams)), set forth in Appendix B to 40 C.F.R. Part 61, or Method 102(Reference Method for Determination of Particulate and Gaseous Mercury Emissions from Stationary Sources (Hydrogen Streams)), set forth in Appendix B to 40 C.F.R. Part 61, whichever is applicable.

(d) Performance Test Procedures

(1) The Director shall be notified in writing at least 30 days prior to an emission test.

(2) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in a 24-hour period. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until the new emission level has been estimated by calculation and the results reported to the Director.

(3) All samples shall be analyzed, and mercury emissions shall be determined within 30 days after the source test. Each determination shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

(4) Cell room emissions at a mercury chlor-alkali plant shall be determined by passing all cell room air in forced gas streams through stacks suitable for testing.

(5) In lieu of performance tests for cell room emissions at a mercury chlor-alkali plant, the owner or operator may elect to carry out design, maintenance, and housekeeping practices approved by the Director and assume that emissions from the cell room ventilation system contain 1,300 grams of mercury per day.

(6) In lieu of performance tests for sludge incineration and drying plants, the owner or operator of such a plant may elect to carry out a sludge sampling program according to Method 105. Method for Determination of Mercury in Wastewater Treatment Plant Sewage Sludges, set forth in 40 Fed. Reg. 48310-48311 (1975), and according to the procedures set forth below:

(aa) The Director shall be notified in writing at least 30 days prior to the sludge sampling test.

(bb) The sludge shall be sampled after dewatering and before incineration or drying at a location that provides a representative sample of the sludge that is charged to the incinerator or dryer. Eight consecutive grab samples shall be obtained at intervals of between 45 and 60 minutes and thoroughly mixed into one sample. Each of the eight grab samples shall have a volume of at least 200 ml but shall not exceed 400 ml. A total of three composite samples shall be obtained within an operating period of 24 hours. When the 24-hour operating period is not continuous, the total sampling period shall not exceed 72 hours after the first grab sample is obtained. Samples shall not be exposed to any condition that may result in mercury contamination or loss.

(cc) The maximum 24-hour period sludge incineration or drying rate shall be determined by use of a flow rate measurement device that can measure the mass rate of sludge charged to the incinerator or dryer with an accuracy of ±5 percent over its operating range. Other methods of measuring sludge mass charging rates, approved by the Director, may be used.

(dd) The handling, preparation, and analysis of sludge samples shall be accomplished according to Method 105.

(ee) The mercury emissions shall be determined by use of the following equation:

$$E_{Hg} = 1 \times 10^{-3} \, c \, Q$$

where E_{Hg} = mercury emissions, g/day

c = mercury concentration of sludge on a dry solids basis, µg/g (ppm)

Q = sludge charging rate, kg/day

(ff) No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase emissions above the level determined by the most recent sludge test, until the new emission level has been estimated by calculation and the results reported to the Director.

(gg) All sludge samples shall be analyzed for mercury content within 30 days after the sludge sample is collected. Each determination shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

(e) Emission Monitoring

The owner or operator of a sludge incineration and drying plant for which mercury emissions exceed 1600 g/day, demonstrated either by performance tests or sludge sampling shall monitor mercury emissions at intervals of at least once per year using Method 105 and the procedures under paragraph (d)(6) of this regulation.

APPROVED AS TO FORM AND LEGALITY
DEC 18 1975 19
WARREN SPANNAUS, ATTORNEY GENERAL
BY /s/ Michael B. Miller
SPECIAL ASSISTANT ATTORNEY GENERAL

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED
DEC 18 1975
Joan Anderson Growe
Secretary of State
2:47 PM

FILED
RICHARD L. BRUBACHER
Commissioner of Administration
DEC 18 1975
BY Edw Henderson
AUTH. SIGNATURE
3:05 PM

PCA EXH 1
4-17-75 J.T.K.

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

ORDER FOR HEARING

To effectively implement Minn. Stat. chs. 115 and 116 (1974) and federal law, the Minnesota Pollution Control Agency deems it necessary to consider adoption of the proposed regulations and amendments captioned above pursuant to authority vested in the Agency by law. The Agency authorized the holding of a public hearing on these regulations and amendments by resolutions passed on June 18, 1974, August 20, 1974, and December 17, 1974. A Certificate that the Agency adopted these resolutions is attached hereto and incorported herein.

NOW, THEREFORE, IT IS ORDERED this 13th day of March, 1975, that a public hearing on the proposed regulations and amendments captioned above be held in the Board Room of the offices of the Minnesota Pollution Control Agency, 1935 W. County Road B-2, Roseville, Minnesota, on April 17 and 18, 1975, in Duluth, Minnesota, on April 23, 1975, in the City Council chambers, in Moorhead, Minnesota, on April 29, 1975, in the City Council chambers, and in Mankato, Minnesota, on May 1, 1975, in the Law Enforcement Center, and that the hearing continue until all interested persons, representatives, organizations, or groups have had an opportunity to be heard.

IT IS FURTHER ORDERED that notice of said hearing be given to all representatives of associations or other interested groups or persons who have registered their names with the Secretary of State for that purpose.

MINNESOTA POLLUTION CONTROL AGENCY

Harold D. Field, Jr.
Chairman

Grant J. Merritt
Executive Director

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

CERTIFICATE OF AGENCY'S AUTHORIZING RESOLUTIONS

I, Grant J. Merritt, do hereby certify that I am the Executive Director of the Minnesota Pollution Control Agency, an agency duly authorized under the laws of the State of Minnesota, and that a resolution was adopted at the meeting of the Agency duly and properly called on the 18th day of June, 1974, and that the resolution authorized the holding of a public hearing on APC 20 and APC 11; that a resolution was adopted at the meeting of the Agency duly and properly called on the 20th day of August, 1974, and that the resolution authorized the holding of a public hearing on APC 15; and that a resolution was adopted at the meeting of the Agency duly and properly called on the 17th day of December, 1974, and that the resolution authorized the holding of a public hearing on all the regulations and amendments captioned above.

I further certify that a quorum was present at each of the above meetings; that the resolutions were passed by a majority of the Agency members; that the resolutions are set forth in the Agency minutes; and that the resolutions have not been rescinded or modified.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 13th day of March, 1975.

Grant J. Merritt
Executive Director

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

NOTICE OF HEARING

PLEASE TAKE NOTICE that a public hearing will be held pursuant to Minnesota Statutes sections 15.0412 and 116.07 to consider adoption of amendments to existing air pollution control regulations and adoption of new air pollution control regulations. The hearing will begin at 9:00 a.m. on Thursday, April 17, 1975, in the Board Room of the Minnesota Pollution Control Agency at 1935 W. County Road B2, Roseville, Minnesota, and will continue at 7:00 p.m. on Thursday, April 17, and at 9:00 a.m. on Friday, April 18, in the Board Room. The hearing will also convene in Duluth, Minnesota, at 9:00 a.m. on Wednesday, April 23, 1975, at the City Council chambers in City Hall, and in Moorhead, Minnesota, at 9:00 a.m. on Tuesday, April 29, 1975, at the City Council chambers in City Hall, and in Mankato, Minnesota, at 9:00 a.m. on Thursday, May 1, 1975, at the Law Enforcement Center, 710 South Front Street.

The hearing will be held on the following amendments and new regulations:

APC 2 Definition, Abbreviations, Applicability of Standards, Access to Premises, Variances, Circumvention, Severability

APC 3 Permits

APC 4 Standards of Performance for Fossil Fuel-Burning Equipment Used for Indirect Heating

APC 5 Restriction of Emissions of Particulate Matter from Industrial Processes

APC 7 Standards of Performance for Incinerators

APC 8 Open Burning Restrictions

APC 11 Restriction of Emission of Visible Air Contaminants

APC 12 Standards of Performance for Motor Vehicles and Stationary Internal Combustion Engines

APC 13 Standards of Performance for Storage Vessels for Petroleum Liquids

APC 15 Sulfuric Acid Plant Emissions

APC 16 Standards of Performance for Nitric Acid Plants

APC 20 Control of Emissions During Coking Processes

APC 21 Emission Source Monitoring, Performance Tests, Shutdowns and Breakdowns

APC 22 Standards of Performance for Portland Cement Plants

APC 23 Standards of Performance for Asphalt Concrete Plants

APC 24 Standards of Performance for Petroleum Refineries

APC 25 Standards of Performance for Secondary Lead Smelters

APC 26 Standards of Performance for Secondary Brass and Bronze Ingot Production Plants

APC 27 Standards of Performance for Iron and Steel Plants

APC 28 Standards of Performance for Sewage Sludge Incinerators

APC 29 Standards of Performance for Grain Handling Facilities

APC 30 Emission Standards for Beryllium

APC 31 Emission Standards for Mercury

APC 32 Standards of Performance for Fossil Fuel-Burning Equipment Used for Direct Heating

The hearing will continue until all interested persons, representatives, and organizations have had an opportunity to be heard concerning the adoption of the proposed regulations and amendments captioned above, by submitting oral or written data, statements, comments, or arguments. Oral testimony shall be given under oath or affirmation. Written statements may be mailed to the Agency at the address below for submission into the record at any time prior to the close of the record. The record will remain open until at least May 23, 1975. The address for mailing written statements is:

Minnesota Pollution Control Agency
Division of Air Quality
1935 W. County Road B2
Roseville, Minnesota 55113
Attention: Edward M. Wiik

Persons who desire to present oral statements at any of the hearing locations are requested to contact Mr. Wiik at least three days in advance of the hearing and notify him of such intention to testify and of the regulations which will be the subject of the testimony.

The amendments and regulations proposed here are intended primarily to adopt the federal new source performance standards which have been promulgated by the United States Environmental Protection Agency. These new source performance standards contain emission limitations, monitoring and reporting requirements, and performance test methods and procedures for various facilities such as petroleum refineries and steam generators. The federal standards are found in Title 40, Code of Federal Regulations, Part 60. In addition, federal standards for hazardous air pollutants, beryllium and mercury, have been incorporated into proposed regulations APC 30 and 31. The federal hazardous air pollutant standards are found in Title 40, Part 61. It is necessary to adopt all these federal standards to allow the State to assume responsibility for implementing and enforcing them. Other amendments which will be considered at this hearing, such as amendments to the open burning regulation and amendments to various emission requirements for existing sources, are proposed to improve and revise and update existing language and requirements consistent with experience with the current regulations.

Copies of the regulations may be obtained by contacting Mr. Wiik (612-296-7332). Copies are also available for inspection at the following locations:

PCA Offices in Roseville

PCA Regional Offices

Duluth - 1015 Torrey Building
Brainerd - 502 Washington Street
Fergus Falls - 115 South Vine
Marshall - Cline Pharmacy Building
Rochester - 921 3rd Avenue, S.E.,
Kings Row Building

St. Cloud
St. Cloud Health Department
303 South 1st Street

Mankato
Law Enforcement Center
710 South Front Street

Moorhead
City Clerk's Office
City Hall

Rochester
Olmsted County Health Department
415 4th Street, S.E.

These regulations and amendments to be considered at this hearing are proposed regulations only and are subject to alteration or modification as the Agency deems necessary and appropriate from its consideration of all the evidence adduced at the public hearing and all statements and exhibits introduced into the record.

Dated this 13th day of March, 1975.

Grant J. Merritt
Executive Director

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION CONTROL AGENCY

In the Matter of the Adoption of Amendments to Air Pollution Control Regulations APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, and 16 and New Regulations APC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

STATEMENT OF EXPLANATION

Section 111 of the Clean Air Act authorizes the United States Environmental Protection Agency (EPA) to promulgate regulations establishing standards of performance for new stationary sources. Pursuant to this authority EPA has promulgated new source performance standards for several kinds of facilities including steam generators, incinerators, portland cement plants, nitric acid plants, sulfuric acid plants, asphalt concrete plants, petroleum refineries, storage vessels for petroleum liquids, secondary lead smelters, secondary brass and bronze ingot production plants, iron and steel plants, and sewage sludge incinerators. These standards are found in Title 40, Code of Federal Regulations, Part 60.

Section 112 of the Clean Air Act authorizes EPA to identify hazardous air pollutants and promulgate emission standards for such pollutants. EPA has promulgated standards for asbestos, beryllium, and mercury. These standards are found in Title 40, Code of Federal Regulations, Part 61. The Minnesota Pollution Control Agency (PCA) has already adopted an asbestos regulation (APC 17). The berryllium and mercury standards are incorporated into APC 30 and 31.

The Clean Air Act recognizes that the States have the primary responsibility for prevention and control of air pollution and that the States should implement and enforce new source performance standards and hazardous air pollution standards promulgated by EPA. Presently these standards are federal law enforceable by the federal government, and sources in Minnesota are required to comply with them. Adoption of state regulations will make these standards enforceable by the State. In addition, federal grant monies are available to States which have an acceptable program for enforcing these standards.

The starting point, then, for these proposed amendments and regulations is the federal new source performance standards and hazardous air pollutant standards. When the PCA began incorporating these standards into the State regulations, which resulted in extensive additions to the PCA air pollution

regulations, it appeared appropriate to propose at the same time various other changes to the existing regulations. Rather than have a regulation which applied only to new petroleum refineries, for example, it was decided that it would be appropriate to include the standards for existing petroleum refineries in the same regulation (APC 24). The present requirements, of course, for existing petroleum refineries and other existing facilities are found in such regulations as APC 4, 5, 6, 11, 15 and 16. In some cases, when amending the regulation to provide standards for both new and existing facilities, the present requirements for existing sources have been made more stringent (APC 25 and 26, for example) while in other cases the requirements for existing facilities are relaxed (APC 15 and 16). Other changes are proposed to remove outdated language from certain regulations (a June 1, 1972, deadline in APC 4, for example). Also, several new, specific regulations are proposed for certain facilities such as coke plants and grain handling facilities to specify exactly what standards these sources are required to meet.

Without describing specific numbers and requirements, the provisions of the proposed regulations and amendments can be summarized as follows:

APC 2 DEFINITION, ABBREVIATIONS, APPLICABILITY OF STANDARDS, ACCESS TO PREMISES, VARIANCES, CIRCUMVENTION, SEVERABILITY

Definitions: These are the words and phrases which are used throughout the air pollution regulations. Many of these definitions, including performance test methods and monitoring specifications are taken from EPA. The abbreviations are used throughout all the regulations, too.

Applicability: Since different standards often apply if a facility is a new source, provisions for distinguishing an existing facility from a new one must be provided. The critical date is the effective date of the federal new source standard.

Modifications: These are taken from EPA.

Other Provisions: The other provisions are already in APC 2, although some language changes may be proposed.

APC 3 PERMITS

This regulation is amended only to change the title and eliminate three provisions which now are proposed as a part of APC 21.

APC 4 STANDARDS OF PERFORMANCE FOR FOSSIL FUEL-BURNING EQUIPMENT USED FOR INDIRECT HEATING

The provisions for existing indirect heating equipment are taken from the present APC 4 and APC 11. A new SO_2 standard

which uses the pounds of sulfur in the fuel as the criterion has been proposed. The requirements for large new sources and the monitoring and testing requirements are taken from EPA standards. (In addition to 40 C.F.R. Part 60, see 39 Fed. Reg. 32871 (September 11, 1974) for EPA proposed monitoring requirements for existing sources.) Please note that while EPA applies its new source performance standard only to steam generators, the proposed PCA regulation applies to all indirect heating equipment.

APC 5 RESTRICTION OF EMISSIONS OF PARTICULATE MATTER FROM INDUSTRIAL PROCESSES

This regulation has no EPA counterpart. However, the PCA has proposed a more stringent standard for new industrial processes. Note that APC 5 applies only to facilities for which a specific regulation does not exist. A major proposal is the elimination of Table 1 (process weight table) in the current APC 5, although the source gas volume table is retained.

APC 7 STANDARDS OF PERFORMANCE FOR INCINERATORS

This amendment incorporates the present standards for existing incinerators but proposes more stringent standards for new incinerators which are smaller than the incinerators regulated by EPA. Some obsolete provisions have been eliminated.

APC 8 OPEN BURNING RESTRICTIONS

The amended regulation eliminates provisions which are no longer applicable because of outdated compliance schedules. A definition section has been added. The amendment recognizes that the existence of refuse collection service is the key to the allowing of open burning for limited purposes. The amendment clarifies the purposes for which one can obtain an open burning permit and the persons who are authorized to issue such permits. Additional controls over salvage operations are proposed.

APC 11 RESTRICTION OF EMISSION OF VISIBLE AIR CONTAMINANTS

This regulation now applies only to those sources which are not covered by a specific regulation. Facilities which are covered by a specific regulation will have an opacity standard in that regulation. Since facilities such as boilers are now covered in specific regulations, the opacity standards are more stringent in the proposed amendment than in the existing regulation. It is proposed to eliminate the Ringlemann reading and use instead the more popular percent opacity. Also, elimination of exemptions for certain processes is proposed.

APC 12 STANDARDS OF PERFORMANCE FOR MOTOR VEHICLES AND STATIONARY INTERNAL COMBUSTION ENGINES

Motor vehicles and stationary internal combustion engines are distinguished. A new provision to prohibit the transfer of motor vehicles which have had pollution control devices removed has been added.

APC 13 STANDARDS OF PERFORMANCE FOR STORAGE VESSELS FOR PETROLEUM LIQUIDS

This regulation would now apply to the storage of petroleum liquids and not just gasoline, which is all the present regulation covers. The EPA standards are proposed for both new and existing sources.

APC 15 SULFURIC ACID PLANT EMISSIONS

This amendment is the result of a proceeding between the PCA, North Star Chemical, and several intervenors. The amendment would relax the standard for the only existing sulfuric acid plant in the state, but would impose the EPA standard for new plants. Monitoring requirements, however, would apply to the existing plant.

APC 16 STANDARDS OF PERFORMANCE FOR NITRIC ACID PLANTS

The amendment proposes to relax the standard for existing nitric acid plants (St. Paul Ammonia operates the only plant in the state) but adopts the EPA standard for new plants. Monitoring requirements, however, would apply to the existing plant.

APC 20 CONTROL OF EMISSIONS DURING COKING PROCESSES

This regulation has no counterpart in the EPA new source performance standards. It is based on regulations from other agencies around the country, the present state of abatement technology, and on what the PCA has maintained existing regulations already require.

APC 21 EMISSION SOURCE MONITORING, PERFORMANCE TESTS, SHUTDOWNS AND BREAKDOWNS

This is a procedural regulation based on requirements already in APC 3 and on requirements imposed on new sources by EPA. It provides procedures for monitoring when monitoring is required, for running performance tests when tests are required, and for submitting data on shutdowns and malfunctions. Test methods which are presently scattered throughout the existing regulations would all be compiled in APC 21.

APC 22 STANDARDS OF PERFORMANCE FOR PORTLAND CEMENT PLANTS

This regulation incorporates existing standards for existing plants and EPA standards for new plants.

APC 23 STANDARDS OF PERFORMANCE FOR ASPHALT CONCRETE PLANTS

This regulation incorporates existing standards for existing plants and EPA standards for new plants.

APC 24 STANDARDS OF PERFORMANCE FOR PETROLEUM REFINERIES

This regulation establishes standards for existing petroleum refineries and proposes the EPA standards for new refineries. The monitoring requirements are EPA's, although the requirement for existing refineries has only been proposed by EPA (39 Fed. Reg. 32871 (September 11, 1974)).

APC 25 STANDARDS OF PERFORMANCE FOR SECONDARY LEAD SMELTERS

No distinction is made between new and existing lead smelters. The proposed standards are those promulgated by EPA.

APC 26 STANDARDS OF PERFORMANCE FOR SECONDARY BRASS AND BRONZE INGOT PRODUCTION PLANTS

This regulation does not distinguish new sources from existing sources but it does distinguish size. In some cases for existing sources the proposal is more stringent than the existing standards. A definition of "brass or bronze ingot production plant" has been added since EPA did not provide one.

APC 27 STANDARDS OF PERFORMANCE FOR IRON AND STEEL PLANTS

The proposal contains those standards adopted by EPA. There is not an iron and steel plant in the State so no distinction between existing and new plants has been made.

APC 28 STANDARDS OF PERFORMANCE FOR SEWAGE SLUDGE INCINERATORS

The proposed standards for existing incinerators are those found in APC 7. The proposed standards for new incinerators are taken from the EPA regulation.

APC 29 STANDARDS OF PERFORMANCE FOR GRAIN HANDLING FACILITIES

This is a new regulation prepared by the PCA. The old standards in APC 5 and APC 6 have been difficult to apply and a new specific regulation will be helpful. The proposed regulation provides different standards, depending on the size and location of the facility, and whether it is new or existing. In some cases the standards have been relaxed from what is presently required.

APC 30 EMISSION STANDARDS FOR BERYLLIUM

This regulation is very similar to the EPA standards. See 40 C.F.R. Part 61.

APC 31 EMISSION STANDARDS FOR MERCURY

This regulation is very similar to the EPA standards. See 40 C.F.R. Part 61.

APC 32 STANDARDS OF PERFORMANCE FOR FOSSIL FUEL-BURNING EQUIPMENT USED FOR DIRECT HEATING

This regulation corresponds closely to APC 4 (indirect heating equipment), although EPA has not promulgated standards for direct heating equipment. APC 32 applies only to direct heating equipment for which a specific regulation does not apply. The regulation proposes different standards depending on size and location of the equipment. This regulation will apply to such equipment as kilns in a taconite plant, for example.

Dated this 14th day of March, 1975.

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the Adoption of
Amendments to Air Pollution Control
Regulations APC 2, 3, 4, 5, 7, 8, 11,
12, 13, 15, and 16 and New Regulations
APC 20, 21, 22, 23, 24, 25, 26, 27,
28, 29, 30, 31 and 32

STATEMENT OF NEED

The above-captioned regulations are both amendments to existing regulations and new regulations for the Minnesota Pollution Control Agency. The need to adopt these amendments and regulations arises for the following reasons:

1. Section 111 of the Clean Air Act (42 U.S.C. §1857c-6) authorizes the United States Environmental Protection Agency (EPA) to promulgate regulations establishing standards of performance for new stationary souces within certain categories published by EPA. Pursuant to this authority EPA has promulgated new source performance standards for the following stationary sources: steam generators, incinerators, portland cement plants, nitric acid plants. sulfuric acid plants, asphalt concrete plants, petroleum refineries, storage vessels for petroleum liquids, secondary lead smelters, secondary brass and bronze ingot production plants, iron and steel plants, and sewage sludge incinerators. These standards are found in Title 40, Code of Federal Regulations, Part 60.

2. Section 112 of the Clean Air Act (42 U.S.C. §1857c-7) authorizes EPA to identify and to promulgate emission standards for hazardous air pollutants. Pursuant to this authority EPA has promulgated standards for asbestos, mercury, and beryllium. These standards are found in Title 40, Code of Federal Regulations, Part 61.

3. The new source performance standards and the hazardous air pollutant standards promulgated by EPA contain emission limitations, monitoring and reporting requirements, and performance test methods and procedures. These EPA regulations are federal law and are enforceable by the federal government against persons who install and operate stationary sources in Minnesota.

4. The Clean Air Act (42 U.S.C. §1657) recognizes that the States have the primary responsibility for prevention and control of air pollution. Sections 111 and 112 of the Clean Air Act both recognize that each State may develop and submit to EPA

a procedure for implementing and enforcing new source performance standards and hazardous air pollutant standards promulgated by EPA. EPA has encouraged the States to assume responsibility for implementation and enforcement of these standards and has made grant monies available to States which adopt an acceptable procedure for doing so.

5. The PCA does intend to assume responsibility for implementation and enforcement of the federal standards in Minnesota. The procedure to be used is the adoption of state regulations which impose the same or similar requirements as the federal standards. Adoption of state regulations will make these standards enforceable by the State. The need, then, for adoption of these regulations is to allow the State to assume responsibility for implementation and enforcement of federal new source performance standards and federal hazardous air pollutant standards.

6. The PCA has already adopted regulations which apply to all kinds of stationary sources, including the kinds of sources for which EPA has promulgated a federal standard. (These regulations include air pollution control regulations APC 4, 5, 6, 7, 11, 13, 15 and 16.) In most cases, however, the PCA has not adopted a specific regulation for a certain, identifiable source, i.e., there is not a specific regulation for secondary lead smelters or petroleum refineries, but instead APC 5, which applies to all industrial processes, is applicable. It would be undesirable to adopt one specific regulation for new sources and maintain the present, general regulation for old sources of the same kind. Therefore, there is a need to adopt one specific regulation which provides standards for existing sources based on the existing PCA regulation and standards for new sources based on the federal regulation.

7. In some instances where no specific regulation exists for a particular stationary source, some confusion and difficulty has arisen in applying the general regulation. There is a need to adopt a specific regulation for such sources as coke plants, grain elevators, and recovery boilers to eliminate any ambiguities in applying APC 5 and 6. (Specific regulations for coke plants (APC 20), grain handling facilities (APC 29), and direct heating equipment (APC 32) have been proposed.)

8. Pollution control technology and expertise have continued to expand in the years since the present regulations were first adopted. The federal new source performance standards indicate that improved technology is available in many areas. There is a need to amend existing regulations in cases where more stringent emission restrictions are reasonable and feasible. Also, the proposal of specific regulations for particular sources, which sources presently fall under the general regulations such as APC 5, 6, and 11, requires amendment of the general regulations to allow for the removal of certain sources from the requirements of these general regulations.

9. In some cases, however, experience and research have indicated that present regulations may contain emission limitations that cannot be reasonably achieved for existing facilities. For example, on August 20, 1974 the PCA signed a stipulation agreement with North Star Chemicals Company which provided for reduction of emissions to a level which is in excess of the levels in APC 15. The proposed amendment to APC 15 relaxes the present requirements and provides for control of emissions in accordance with the provisions of the stipulation agreement. There is a need then, too, to amend existing regulations to relax those requirements which no longer appear to be reasonable and feasible.

10. Many of the present regulations contain provisions and time schedules that have become obsolete. For example, APC 4 contains a June 1, 1972, effective date for a sulfur content restriction and APC 8 requires municipalities to report to the PCA within three months of the effective date of the regulation, which was June 5, 1970. There is a need to amend several of the present regulations to remove obsolete provisions.

11. Further, there is a need to provide certain housekeeping changes in the regulations. For example, amendments to APC 8 are necessary to clarify who is entitled to issue open burning permits.

Dated this 14th day of March, 1975.

MINNESOTA POLLUTION CONTROL AGENCY

By Grant J. Merritt

Grant J. Merritt
Executive Director

Proposed
March 14, 1975

APC 15 SULFURIC ACID PLANT EMISSION

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Sulfuric acid production unit": Means any emission facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(b) Standards of Performance for Existing Sulfuric Acid Production Units

(1) Prior to June 1, 1975, no owner or operator of an existing sulfuric acid production unit shall cause or allow the discharge into the atmosphere of gases which contain sulfur dioxide in excess of 84 pounds per ton of acid produced, the production being expressed as 100 percent H_2SO_4.

(2) After June 1, 1975, and before July 1, 1977, no owner or operator of an existing sulfuric acid production unit shall cause or allow the discharge into the atmosphere of gases which contain sulfur dioxide in excess of 42 pounds per ton of acid produced, production being expressed as 100 percent H_2SO_4.

(3) After July 1, 1977, no owner or operator of an existing sulfuric acid production unit shall cause or allow the discharge into the atmosphere of gases which contain sulfur dioxide in excess of 30 pounds per ton of acid produced, production being expressed as 100 percent H_2SO_4.

(4) No owner or operator of an existing sulfuric acid production unit shall cause or allow the discharge into the atmosphere of any gases which contain acid mist, expressed as H_2SO_4, in excess of 1.70 pounds per ton of acid produced, the production being expressed as 100 percent H_2SO_4.

(c) Standards of Performance for New Sulfuric Acid Production Units

(1) No owner or operator of a new sulfuric acid production unit shall cause or allow the discharge into the atmosphere of gases which contain sulfur dioxide in excess of 4 pounds per ton of acid produced, the production being expressed as 100 percent H_2SO_4.

(2) No owner or operator of a new sulfuric acid production unit shall cause or allow the discharge into the atmosphere of any gases which contain acid mist, expressed as H_2SO_4, in excess of 0.15 pounds per ton of acid produced, the production being expressed as 100 percent H_2SO_4; or gases which exhibit 10 percent opacity, or greater. Where the presence of uncombined water is the only reason for failure to meet the opacity requirements of this subsection, such failure shall not be a violation of this requirement.

(d) Continuous Emission Monitoring

(1) The owner or operator of a sulfuric acid production unit shall install, calibrate, maintain, and operate an instrument for continuously monitoring and recording emissions of sulfur dioxide.

(2) The instrument and sampling system installed and used pursuant to this section shall be capable of monitoring emission levels within $\pm$ 20 percent with a confidence level of 95 percent and shall be calibrated in accordance with the method(s) prescribed by the manufacturer(s) of such instrument as often as deemed necessary by the Agency.

(3) The owner or operator of a sulfuric acid production unit shall record daily the production rate and hours of operation.

(4) The owner or operator of a sulfuric acid production unit shall record the continuous monitoring measurements of sulfur dioxide emissions and convert the measurements to pounds of sulfur dioxide per ton of acid produced. The measurements shall be recorded daily and summarized monthly. The record of any such measurements and summary shall be retained for at least two years following the date of such measurements and summaries. The measurements and summaries shall be submitted to the Agency upon request.

(e) Performance Test Methods

Unless another method is approved by the Director, any person required to submit performance tests for a sulfuric acid production unit shall utilize the following test methods:

(1) Method 8 for the concentrations of SO_2 and acid mist;

(2) Method 1 for sample and velocity traverses;

(3) Method 2 for velocity and volumetric flow rate; and

(4) Method 3 for gas analysis.

(f) Performance Test Procedures

(1) In testing for sulfur dioxide and acid mist, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 1.15 dscm (40.6 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Agency.

(2) Acid production rate, expressed in tons per hour of 100 percent H_2SO_4, shall be determined during each testing period by a suitable method approved by the Agency. The Agency may require the production rate to be confirmed by a material balance over the production system.

(3) Unless the Director approves another method, acid mist and sulfur dioxide emissions, expressed in pounds per ton of 100 percent H_2SO_4, shall be determined by dividing the emission rate in lb/hr by the acid production rate. The emission rate shall be determined by the equation, lb/hr = Q_s x c, where Q_s = volumetric flow rate of the effluent in dscf/hr as determined in accordance with subsection (e)(3), and c = acid mist and sulfur dioxide concentrations in lb/ft^3 as determined in accordance with subsection (e)(1).

(g) Exceptions

Shutdowns and breakdowns of control equipment and process equipment at any sulfuric acid production unit shall be governed by the provisions of APC 21.

Proposed

March 14, 1975

APC 16 STANDARDS OF PERFORMANCE FOR NITRIC ACID PLANTS

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Nitric acid production unit" means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.

(2) "Weak nitric acid" means acid which is 30 to 70 percent in strength.

(b) Standards of Performance for Existing Nitric Acid Plants

(1) Prior to July 1, 1977, no owner or operator of an existing nitric acid plant shall cause to be discharged into the atmosphere from a nitric acid plant any gases which contain nitrogen oxides, expressed as NO_2, in excess of 50 pounds per ton of acid produced, the production being expressed as 100 percent nitric acid.

(2) After July 1, 1977, no owner or operator of an existing nitric acid plant shall cause to be discharged into the atmosphere from the nitric acid plant any gases which contain nitrogen oxides, expressed as NO_2, in excess of 40 pounds per ton of acid produced, the production being expressed as 100 percent nitric acid.

(3) No owner or operator of an existing nitric acid plant shall cause to be discharged into the atmosphere from

the nitric acid plant any gases which exhibit greater than 10 percent opacity, except that the provisions of APC 11 shall apply during a short process upset and the provisions of APC 21 shall apply during a shutdown or breakdown.

(c) Standards of Performance for New Nitric Acid Plants

No owner or operator of a new nitric acid plant shall cause to be discharged into the atmosphere from the nitric acid plant any gases which:

(1) Contain nitrogen oxides, expressed as NO_2, in excess of 1.5 kg per metric ton of acid produced (3.0 lb per ton), the production being expressed as 100 percent nitric acid,

(2) Exhibit greater than 10 percent opacity.

(d) Emission Monitoring

(1) The owner or operator of a nitric acid plant shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement and recording of nitrogen oxides emissions.

(2) Continuous monitoring systems for measuring nitrogen oxides emissions shall comply with Performance Specification 2.

(3) The pollutant gas used to prepare calibration gas mixtures shall be nitrogen dioxide (NO_2).

(4) The owner or operator of a nitric acid plant shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions (ppm) with the continuous monitoring system at the

same time emissions are determined by performance tests. Using emission data from the performance test and only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the performance test periods, the conversion factor shall be determined by dividing the performance test data integrated average by the continuous emission monitoring test data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data (kg/metric ton per ppm, lb/ton per ppm).

(5) The owner or operator of a nitric acid plant shall record the daily production rate and hours of operation.

(e) Performance Test Methods

(1) Method 7 for the concentration of NO_2;

(2) Method 1 for sample and velocity traverses;

(3) Method 2 for velocity and volumetric flow rate; and

(4) Method 3 for gas analysis.

(f) Performance Test Procedures

(1) For Method 7, the same site shall be selected according to Method 1 and the sampling point shall be the centroid of the stack or duct or at a point no closer to the walls than 1 m (3.28 ft). Each run shall consist of at least four grab samples taken at approximately 15-minutes intervals. The arithmetic mean of the samples shall constitute the run value. A velocity traverse shall be performed once per run.

(2) Acid production rate, expressed in metric tons per hour of 100 percent nitric acid, shall be determined during each

testing period by suitable methods and shall be confirmed by a material balance over the production system.

(3) For each run, nitrogen oxides, expressed in g/metric ton of 100 percent nitric acid, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation,

$$g/hr = Q_s \times c$$

where Q_s =volumetric flow rate of the effluent in dscm/hr, as determined in accordance with paragraph (e)(3) of this section, and c=NO_2 concentration in g/dscm, as determined in accordance with subsection (e)(1) of this regulation.

March 14, 1975

APC 31 EMISSION STANDARDS FOR MERCURY

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Cell room" means a structure(s) housing one or more mercury electrolytic chlor-alkali cells.

(2) "Condenser stack gases" means the gaseous effluent evolved from the stack of processes utilizing heat to extract mercury metal from mercury ore.

(3) "Denuder" means a horizontal or vertical container which is part of a mercury chlor-alkali cell and in which water and alkali metal amalgam are converted to alkali metal hydroxide, mercury, and hydrogen gas in a short-circuited, electrolytic reaction.

(4) "End box" means a container(s) located on one or both ends of a mercury chlor-alkali electrolyzer which serves as a connection between the electrolyzer and denuder for rich and stripped amalgam.

(5) "End box ventilation system" means a ventilation system which collects mercury emissions from the end boxes, the mercury pump sumps, and their water collection systems.

(6) "Hydrogen gas stream" means a hydrogen stream formed in the chlor-alkali cell denuder.

(7) "Mercury" means the element mercury, excluding any associated elements, and includes mercury in particulates, vapors, aerosols, and compounds.

(8) "Mercury chlor-alkali cell" means a device which is basically composed of an electrolyzer section and a denuder (decomposer) section and utilizes mercury to produce chlorine gas, hydrogen gas, and alkali metal hydroxide.

(9) "Mercury chlor-alkali electrolyzer" means an electrolytic device which is part of a mercury chlor-alkali cell and utilizes a flowing mercury cathode to produce chlorine gas and alkali metal amalgam.

(10) "Mercury chlor-alkali plant" means an emission facility which uses mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide.

(11) "Mercury ore" means a mineral mined specifically for its mercury content.

(12) "Mercury ore processing facility" means a facility processing mercury ore to obtain mercury.

(13) "Sludge" means sludge produced by a treatment plant that processes municipal or industrial wastewaters.

(14) "Sludge dryer" means a device used to reduce the moisture content of sludge by heating to temperatures above 65°C (150°F) with combustion gases.

(15) "Sludge incineration and drying plant" means an emission facility which incinerates or drys wastewater treatment plant sludge.

(b) Emission Standards for Mercury

(1) Mercury ore processing facility. No owner or operator of a mercury ore processing facility shall cause to be discharged into the atmosphere from such facility more than 2,300 grams of mercury per 24-hour period.

(2) Mercury chlor-alkali plant. No owner or operator of a mercury chlor-alkali plant shall cause to be discharged into the atmosphere from such plant more than 2,300 grams of mercury per 24-hour period.

(3) Sludge incineration and drying plants. No owner or operator of a sludge incineration and drying plant shall cause to be discharged into the atmosphere from such plant more than 3,200 grams of mercury per 24-hour period.

(c) Emission Test Methods

Unless another method is approved by the Agency, any person required to submit emission test results for a mercury ore processing facility, a mercury chlor-alkali plant, or a sludge incineration and drying plant shall use Method 101. Reference Method for Determination of Particulate and Gaseous Mercury Emissions from Stationary Sources (Air Streams), set forth in Appendix B to 40 C.F.R. Part 61, or Method 102. Reference Method for Determination of Particulate and Gaseous Mercury Emissions from Stationary Sources (Hydrogen Streams), set forth in Appendix B to 40 C.F.R. Part 61, whichever is applicable. Any person required to submit emission test results for a sludge incineration and drying plant may elect to use Method 105. Method for Determination of Mercury in Wastewater Treatment Sewage Sludges, set forth in 39 Fed. Reg. 38071-38073 (1974).

(d) Emission Test Procedures

(1) The Director shall be notified in writing at least 30 days prior to an emission test.

(2) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in a 24-hour period. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until the new emission level has been estimated by calculation and the results reported to the Director.

(3) All samples shall be analyzed, and mercury emissions shall be determined within 30 days after the source test. Each determination shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

(4) Cell room emissions at a mercury chlor-alkali plant shall be determined by passing all cell room air in forced gas streams through stacks suitable for testing.

(5) In lieu of emission tests for cell room emissions at a mercury chlor-alkali plant, the owner or operator may elect to carry out design, maintenance, and housekeeping practices approved by the Director and assume that emissions from the cell room ventilation system contain 1,300 grams of mercury per day.

(6) In lieu of emission tests for sludge incineration and drying plants, the owner or operator of such a plant may elect to carry out a sludge sampling program according to Method 105. Method for Determination of Mercury in Wastewater Treatment Plant Sewage Sludges, set forth in 39 Fed. Reg. 38071-38073 (1974), and according to the procedures set forth below:

(aa) The Director shall be notified in writing at least 30 days prior to the sludge sampling test.

(bb) The sludge shall be sampled after dewatering and before incineration or drying at a location that provides a representative sample of the sludge that is normally charged to the incinerator or dryer. Eight consecutive grab samples shall be obtained at intervals of between 45 and 60 minutes and thoroughly mixed into one sample. Each of the eight grab samples shall have a volume of at least 200 ml but shall not exceed 400 ml. A total of three composite samples shall be obtained within an operating period of 24 hours. When the 24-hour operating period is not continuous, the total sampling period shall not exceed 72 hours after the first grab sample is obtained. Samples shall not be exposed to any condition that may result in mercury contamination or loss.

(cc) The maximum 24-hour period sludge incineration or drying rate shall be determined by use of a flow rate measurement device that can measure the mass rate of sludge charged to the incinerator or dryer with an accuracy of $\pm$5 percent over its operating range. Other methods of measuring sludge mass charging rates, approved by the Director, may be used.

(dd) The handling, preparation, and analysis of sludge samples shall be accomplished according to Method 105.

(ee) The mercury emissions shall be determined by use of the following equation:

$$E_{Hg} = 1 \times 10^{-3} \; c \; Q$$

where E_{Hg} = mercury emissions, g/day

c = mercury concentration of sludge on a dry solids basis, μg/g (ppm)

Q = sludge charging rate, kg/day

(ff) No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase emissions above the level determined by the most recent sludge test, until the new emission level has been estimated by calculation and the results reported to the Director.

(gg) All sludge samples shall be analyzed for mercury content within 30 days after the sludge sample is collected. Each determination shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

Proposed

March 14, 1975

APC 30 EMISSION STANDARDS FOR BERYLLIUM

(a) Definitions

As used in this regulation the following words shall have the meanings defined herein:

(1) "Beryllium" means the element beryllium. Where weights or concentrations are specified, such weights or concentrations apply to beryllium only, excluding the weight or concentration of any associated elements.

(2) "Beryllium alloy" means any metal to which beryllium has been added in order to increase its beryllium content and which contains more than 0.1 percent beryllium by weight.

(3) "Beryllium-containing waste" means material contaminated with beryllium and/or beryllium compounds used or generated during any process or operation performed by a source subject to this subpart.

(4) "Beryllium facility" means an extraction plant, ceramic plant, foundry, incinerator, or propellant plant which processes beryllium ore, beryllium, beryllium oxide, beryllium alloys, or beryllium-containing wastes, or a machine shop which processes beryllium, beryllium oxides or any alloy when such alloy contains more than 5 percent beryllium by weight.

(5) "Beryllium ore" means any naturally occurring material mined or gathered for its beryllium content.

(6) "Beryllium propellant" means any propellant incorporating beryllium.

(7) "Ceramic plant" means a manufacturing plant producing ceramic items.

(8) "Extraction plant" means a facility chemically processing beryllium ore to beryllium metal, alloy, or oxide, or performing any of the intermediate steps in these processes.

(9) "Foundry" means a facility engaged in the melting or casting of beryllium metal or alloy.

(10) "Incinerator" means any furnace used in the process of burning waste for the primary purpose of reducing the volume of the waste by removing combustible matter.

(11) "Machine shop" means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, etching, or other similar operations.

(12) "Propellant" means a fuel and oxidizer physically or chemically combined which undergoes combustion to provide rocket propulsion.

(13) "Propellant plant" means any facility engaged in the mixing, casting, or machining of propellant.

(14) "Rocket motor test site" means any building, structure, facility, or installation where the static test firing of a beryllium rocket motor and/or the disposal of beryllium propellant is conducted.

(b) Emission Standards for Beryllium

(1) Beryllium Facilities. No owner or operator of a beryllium facility shall cause to be discharged into the atmosphere from such facility more than 10 grams of beryllium per 24-hour period.

(2) Burning of Beryllium. No person shall burn beryllium or beryllium-containing waste, except propellants, except in incinerators which comply with the emission standard in subsection (b)(1).

(3) Rocket Motor Test Sites. No owner or operator of a rocket motor test site shall cause to be discharged into the atmosphere from such site:

(aa) Emissions which cause time-weighted atmospheric concentrations of beryllium to exceed 75 microgram minutes per cubic meter of air within the limits of 10 to 60 minutes, accumulated during any 2 consecutive weeks, in any area in which an effect adverse to public health could occur.

(bb) More than 2 grams of beryllium per hour or more than 10 grams of beryllium per 24-hour period from a closed tank used to collect the combustion products from the firing of beryllium propellants.

(c) Emission Monitoring

(1) Beryllium Facilities

(aa) The owner or operator of a beryllium facility shall install a continuous monitoring system to determine the concentration of beryllium in the ambient air. The continuous monitoring system shall be installed at air sampling sites which have been approved by the Director and which are designed to detect the maximum concentrations of beryllium in the ambient air. The Director may require changes in, or expansion of, any sampling network.

(bb) The owner or operator of a beryllium facility shall report the concentrations measured at all sampling sites to the Director every 30 days by registered letter.

(2) Rocket Motor Test Sites

(aa) The owner or operator of a rocket motor test site shall measure the concentration of beryllium in the ambient air during and after firing of a rocket motor and during and after disposal of a beryllium propellant. Prior to the firing or disposal the owner or operator shall obtain the approval of the Director for the measuring technique which is proposed to be used. The technique shall be adequate to enable the Director to determine whether the emissions are in compliance with the standard.

(bb) If combustion products from the rocket motor firing or propellant disposal are collected in a closed tank, emissions from the tank shall be continuously sampled during release of combustion products from the tank, in such a manner to enable the Director to determine whether the emissions are in compliance with the standard.

(cc) All samples shall be analyzed and results shall be calculated within 30 days after samples are taken and before any subsequent rocket motor firing or propellant disposal at the given site. All results shall be reported to the Director by a registered letter dispatched before the close of the next business day following determination of such results.

(dd) The owner or operator of a rocket motor test site shall notify the Director in writing at least 30 days prior to a rocket motor firing or propellant disposal.

(d) Emission Test Method

Unless another method is approved by the Agency, any person required to submit emission test results for a beryllium facility or rocket motor test site shall use Method 103. Beryllium Screening Method, set forth in Appendix B to 40 C.F.R. Part 61, or Method 104. Reference Method for Determination of Beryllium Emissions from Stationary Sources, set forth in Appendix B to 40 C.F.R. Part 61.

(e) Emission Test Procedures

(1) The Director shall be notified in writing at least 30 days prior to an emission test.

(2) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in any 24-hour period. Where emissions depend upon the relative frequency of operation of different types of processes, operating hours, operating capacities, or other factors, the calculation of maximum 24-hour-period emissions shall be based on that combination of factors which is likely to occur during the subject period and which results in the maximum emissions. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until a new emission level has been estimated by calculation and the results reported to the Director.

(3) All samples shall be analyzed and beryllium emissions shall be determined within 30 days after the source test. All determinations shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.