

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 A.P.C. Pollution Control
(Agency or Board)

Regulation No. APC 7, 8, 13, 22, 23, 24, 28, 29

Subject: ~~Explosives~~, Standards of Performance for incinerators, open Burning, storage vessels, Petroleum liquids, Portland cement Plants, Concrete Plants, Petroleum refineries, sewage ~~incineration~~ and grain handling facilities.

Department of Administration
Publication, Central Services Division
Documents Section
140 Centennial Office Building
St. Paul, Minnesota 55155
Telephone: (612) 296-2874

FILED
RICHARD L. BRUBACHER
Commissioner of Administration

MAR 12 1976

BY: Eda Staudenmaier
AUTH. SIGNATURE

Stamped and filed with the Secretary of State March 12, 1976, 4:25 P.M. R: 5 4:30pm

Rev. 9-72

197

Attorney General

Alan Mitchell
Special Assistant
Attorney General

February 23, 197

Michael B. Miller
Special Assistant
Attorney General

APC Rules

Returned herewith are the above-captioned rules. Please submit the transcript of the public hearing on the same, as we discussed.

MBM/mb

Enclosure

197

Alan R. Mitchell
Special Assistant
Attorney General
Pollution Control Agency

March 15, 1976

-APC 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, 16, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32

TRANSMITTAL - MESSAGE SLI[illegible] Flat

TO	LOCATION
DATE	TIME
FROM	LOCATION

PCA rules — Sulcata Radisson NARA

TRANSMITTAL ACTION	CALL OR VISIT
☐ Review and see me	NAME
☐ Review and return	
☐ Prepare reply for my sig.	FROM env. comm.
☐ Reply and send me copy	
☐ For your approval	PHONE NO.
☐ For your information	
☐ For signature	☐ Called
☐ As we discussed	☐ Was here to see you
☐ As you requested	☐ Please call
☐ Take appropriate action	☐ Will call again

MESSAGE

Koch APC2 Cs defn. of "Commenced" —

4 - Ambient Air. too restr.

- Liquid Fossil Fuels - only 1/2 sulphur content of solid
- Conflict w/ PSD on FCC Boilers

Admin 1010(Rev. 8-71) (8)80

☐ OVER

TRANSMITTAL - MESSAGE SLI

TO	LOCATION
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TRANSMITTAL ACTION	CALL OR VISIT
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☐ Prepare reply for my sig.	FROM
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☐ For signature	☐ Called
☐ As we discussed	☐ Was here to see you
☐ As you requested	☐ Please call
☐ Take appropriate action	☐ Will call again

MESSAGE

NWRef APC 13 - no dist. like EPA
esp to existing facilities
- no benefit

Apples & EPA new source stds to old ones

New Rule corrects

Admin 1010(Rev. 8-71) 80

☐ OVER

TRANSMITTAL - MESSAGE SLI

TO	LOCATION
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TRANSMITTAL ACTION	CALL OR VISIT
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☐ For signature	☐ Called
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☐ Take appropriate action	☐ Will call again

MESSAGE

no prob

Conoco APC 2 vague defn. of what modification makes existing plants "new" under rule

N/A to 13, etc.

APC 4-34 - overlap - Also says NO new definitions in 34

New reg makes clearer APC 34 refinery as point source - bad

and p30.

OVER

TRANSMITTAL - MESSAGE SLI

TO	LOCATION
DATE	TIME
FROM	LOCATION

TRANSMITTAL ACTION	CALL OR VISIT
☐ Review and see me	NAME
☐ Review and return	
☐ Prepare reply for my sig.	FROM
☐ Reply and send me copy	
☐ For your approval	PHONE NO.
☐ For your information	
☐ For signature	☐ Called
☐ As we discussed	☐ Was here to see you
☐ As you requested	☐ Please call
☐ Take appropriate action	☐ Will call again

MESSAGE

Pet. Council
Ref 13. Submerged pipe (problem)
- somewhere
one agreed -

No need for (b)(2)

Existing sources

(8) 80

Admin 1010(Rev. 8-71)

☐ OVER

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

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

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

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.

FINAL

March 14, 1975

APC 7 STANDARDS OF PERFORMANCE FOR INCINERATORS

(a) Definitions

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

(1) "Incinerator" means any furnace or other device used in the process of burning solid waste for the purpose of reducing the volume of the waste by removing combustible matter.

(2) "Solid waste" means garbage, refuse, and other discarded solid materials, except animal waste used as fertilizer, including solid waste materials resulting from industrial, commercial and agricultural operations, and from community activities. Solid waste does not include earthen fill, boulders, rock and other materials normally handled in construction operations, solids or dissolved material in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial waste water effluents, dissolved materials in irrigation return flows, or other common water pollutants.

(3) "Burning capacity" means the manufacturer's or designer's maximum rate or such other rate that is considered good engineering practice and accepted by the Director.

(b) Standards of Performance for Existing Incinerators

(1) No owner or operator of an existing incinerator with a maximum refuse burning capacity of less than 200 pounds

per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.3 gr/dscf corrected to 12 percent CO_2.

(2) No owner or operator of an existing incinerator with a maximum refuse burning capacity of 200 to 2000 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.2 gr/dscf corrected to 12 percent CO_2.

(3) No owner or operator of an existing incinerator with a maximum refuse burning capacity of more than 2000 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.1 gr/dscf corrected to 12 percent CO_2.

(4) No owner or operator of an existing incinerator of any burning capacity shall cause or permit the emission of smoke or any other air contaminant which is:

(aa) Greater than 20 percent opacity,

(bb) Except that a maximum of 40 percent opacity shall be permissible for four (4) minutes in any 60 minute period.

(5) No owner or operator of an existing incinerator of any burning capacity shall burn type 2, 3, 4, 5, or 6 waste as classified by the Incinerator Institute of America unless said incinerator utilizes auxiliary fuel burners that maintain a minimum temperature of 1200°F for a minimum retention time of 0.3 second.

(c) Standards of Performance for New Incinerators

(1) No owner or operator of a new incinerator with a maximum refuse burning capacity of less than 200 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.2 gr/dscf corrected to 12 percent CO_2.

(2) No owner or operator of a new incinerator with a maximum refuse burning capacity of 200-2000 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.15 gr/dscf corrected to 12 percent CO_2.

(3) No owner or operator of a new incinerator with a maximum refuse burning capacity of more than 2000 but less than 4000 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.1 gr/dscf corrected to 12 percent CO_2.

(4) No owner or operator of a new incinerator with a maximum refuse burning capacity of 4000 pounds per hour or more shall cause to be discharged in the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.08 gr/dscf corrected to 12 percent CO_2.

(5) No owner or operator of a new incinerator of any burning capacity shall cause or permit the emission of smoke or any other contaminant which is:

(aa) Greater than 20 percent opacity.

(6) No owner or operator of a new incinerator of any burning capacity shall burn type 2, 3, 4, 5, or 6 waste as classified by the Incinerator Institute of America unless said incinerator utilizes auxiliary fuel burners that maintain a minimum temperature of 1200°F for a minimum retention time of 0.3 second.

(d) Monitoring of Operations

The owner or operator of any incinerator shall record the daily charging rate and hours of operation.

(e) Performance Test Methods

Unless another method is approved by the Agency, any owner or operator required to submit performance tests for an incinerator shall utilize the following methods (defined in APC 2):

(1) Method 5 for the concentration of particulate matter and the associated moisture content.

(2) Method 1 for sample and velocity traverses.

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

(4) Method 3 for gas analysis and calculation of excess air, using the integrated sample technique.

(5) Method 9 for visual determination of opacity.

(f) Performance Test Procedures

(1) For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 0.85 dscm (30.0 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Agency.

(2) If a wet scrubber is used, the gas analysis sample shall reflect flue gas conditions after the scrubber, allowing for carbon dioxide absorption by sampling the gas on the scrubber inlet and outlet sides according to the following procedure:

(aa) The outlet sampling site shall be the same as for the particulate matter measurement. The inlet site shall be selected according to Method 1, or as specified by the Agency.

(bb) Randomly select 9 sampling points within the crosssection at both the inlet and outlet sampling sites. Use the first set of three for the first run, the second set for the second fun, and the third set for the third run.

(cc) Simultaneously with each particulate matter run, extract and analyze for CO_2 an integrated gas sample according to Method 3, traversing the three sample points and sampling at each point for equal increments of time. Conduct the runs at both inlet and outlet sampling sites.

(dd) Measure the volumetric flow rate at the inlet during each particulate matter run according to Method 2, using the full number of traverse points. For the inlet make two full velocity traverses approximately one hour apart during each run and average the results. The outlet volumetric flow rate may be determined from the particulate matter run (Method 5).

(ee) Calculate the adjusted CO_2 percentage using the following equation:

$$(\%CO_2)adj=(\%CO_2)di(Qdi/Qdo)$$

where:

$(\%CO_2)_{adj}$ is the adjusted CO_2 percentage which removes the effect of CO_2 absorption and dilution air,

$(\%CO_2)_{di}$ is the percentage of CO_2 measured before the scrubber, dry basis,

Qdi is the volumetric flow rate before the scrubber average of two runs, dscf/min (using Method 2), and

Qdo is the volumetric flow rate after the scrubber, dscf/min (using Methods 2 and 5).

(3) The following procedures may be substituted for the procedures under subsections 2(cc), (dd), and (ee) above:

(aa) Simultaneously with each particulate matter run, extract and analyze for CO_2, O_2, and N_2 an integrated gas sample according to Method 3, traversing the three sample points and sampling for equal increments of time at each point. Conduct the runs at both the inlet and outlet sampling sites.

(bb) After completing the analysis of the gas sample, calculate the percentage of excess air (EA) for both the inlet and outlet sampling sites using the following equation:

$$\%EA = \frac{(\%O_2) - 0.5\,(\%CO)}{0.264(\%N_2) - (\%O_2) + 0.5\,(\%CO)} \times 100$$

where:

%EA = percent excess air

$\%O_2$ = percent oxygen by volume, dry basis

%N2 = percent nitrogen by volume, dry basis

%CO = percent carbon monoxide volume, dry basis

0.264 = ratio of oxygen to nitrogen in air by volume

(cc) Calculate the adjusted CO_2 percentage using the following equation:

$$(\%CO_2)_{adj} = (\%CO_2)_{di} \frac{100+(\%EA)_i}{100+(\%EA)_o}$$

where:

$(\%CO_2)_{adj}$ is the adjusted outlet CO_2 percentage,

$(\%CO_2)_{di}$ is the percentage of CO_2 measured before the scrubber, dry basis,

$(\%EA)_i$ is the percentage of excess air at the inlet, and

$(\%EA)_o$ is the percentage of excess air at the outlet.

(4) Particulate matter emissions, expressed in g/dscm, shall be corrected to 12 percent CO_2 by using the following formula:

$$c_{12} = \frac{12c}{\%CO_2}$$

where:

c_{12} is the concentration of particulate matter corrected to 12 percent CO_2,

c is the concentration of particulate matter as measured by Method 5, and

$\%CO_2$ is the percentage of CO_2 as measured by Method 3, or when applicable, the adjusted outlet CO_2 percentage as determined by subsection (2) or (3) above.

(a) Definitions

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

(1) "Approved waste burner" means an incinerator or other burner constructed of fire resistant material having a capacity of not less than three bushels, a cover which is closed when in use, and maximum openings in the top or sides no greater than one inch in diameter.

(2) "Building material" means lumber, wood shakes and other wood products but shall not include composite shingles, tar paper, insulation, wall board, wiring or other similar smoke producing materials.

(3) "Diseased shade tree" means any tree infected by Dutch elm disease or oak wilt disease or any tree constituting a hazard to a disease control program established by the Department of Agriculture pursuant to Minn. Stat. §18.023.

(4) "Disposal facility" means a facility or site permitted by the Minnesota Pollution Control Agency for the intermediate or final disposal of solid waste.

(5) "Garbage" means discarded material resulting from the handling, processing, storage, preparation, serving and consumption of food.

(6) "Metropolitan Area" means the area included within the counties of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington.

(7) "Open Burning" means the burning of any matter whereby the resultant conbustion products are emitted directly to the atmosphere without passing through an adequate stack, duct, or chimney.

(8) "Refuse collection service" means a public or private operation engaged in solid waste collection and transportation.

(9) "Rubbish" means nonputrescible solid waste, such as paper, cardboard, yard clippings and other natural matter not including garbage.

(b) Open Burning Restrictions

No person shall cause, suffer, allow or permit open burning.

(c) Exemptions

(1) In unincorporated areas where no refuse collection service is available, the open burning of rubbish originating from single residential premises may be conducted in approved waste burners.

(2) In any city where no refuse collection service is available, the local unit of government may apply to the Director for permission to allow the open burning of rubbish originating from single residential premises in approved waste burners.

(3) Refuse collection service shall be deemed available as delineated in the County Solid Waste Management Plan, as adopted by the county and approved by the Agency.

(d) Prohibition of Salvage Operations by Open Burning

(1) No person shall conduct, cause or permit salvage operations by open burning.

(2) No person shall possess, transport or process motor vehicles or scrap metals which have been reduced by open burning or incineration in a device or equipment which has not received an Operating Permit from this Agency.

(e) Open Burning by Permit

Open burning may be conducted if an open burning permit is obtained pursuant to this regulation and the open

burning is conducted in accordance with the requirements of this regulation and the conditions of the permit.

(f) Permit Applications

(1) Application. Application for open burning permits may be made in cases where fires are proposed to be set for the following purposes:

(aa) Bona fide instruction and training of fire fighting personnel and for the testing of fire extinguishing equipment.

(bb) Elimination of fire or health hazards which cannot be abated by any other practicable means.

(cc) Activities in accordance with accepted forest or game management.

(dd) Ground thawing for utility repair and construction.

(ee) The disposal of trees, brush, grass and other vegetative matter in the development of land and right-of-way maintenance.

(ff) The disposal of diseased shade trees.

(gg) The disposal of trees and brush in areas outside the Metropolitan Area.

(hh) Activities in accordance with accepted agricultural practices.

(ii) The disposal of building material generated by construction.

(jj) The disposal of building material generated by the demolition of non-commercial or non-institutional structures.

(2) Restrictions. A burning permit shall be issued on a prescribed form to the applicant if the burning is for one of the purposes set forth in subsection (f)(1) and the applicant agrees that all burning shall be conducted under the following circumstances:

(aa) The prevailing wind at the time of the burning shall be away from nearby residences.

(bb) The burning shall be conducted as far away as practical from any highway or public road and controlled so that a traffic hazard is not created.

(cc) The burning may not be conducted during the duration of an air pollution alert, warning or emergency.

(dd) The recipient of the permit or his authorized representative shall be present for the duration of any fire authorized by the permit.

(ee) Prior notice shall be given to the local Department of Natural Resources Forest Officer, local fire marshal, or local fire chief of the time and location of any fire authorized by the permit.

(ff) Open burning for ground thawing shall be conducted in accordance with the following additional restrictions:

(i) Fuels and starting materials shall be of a kind which do not generate appreciable smoke.

(ii) Coke used for ground thawing within 500 feet of dwellings or occupied buildings shall contain less than 1% sulfur.

(iii) Ambient air quality standards for sulfur dioxide and carbon monoxide shall not be exceeded at occupied residences other than those located on the property on which the burning is being conducted.

(iv) Propane gas thawing torches or other devices causing minimal pollution shall be used when practicable.

(gg) Open burning of materials pursuant to paragraph (f)(1)(ee), (ff), (gg), (hh), (ii), and (jj) shall be conducted in accordance with the following additional restrictions:

(i) The location of the burning shall not be within 600 feet of an occupied residence other than those located on the property on which the burning is conducted.

(ii) Oils, rubber and other similar smoke producing materials shall not be burned or used as starting materials.

(iii) The burning shall not be conducted within one mile of any airport or landing strip, unless approved by the Director.

(hh) Open burning of materials pursuant to paragraph (f)(1)(ii) shall also only be conducted under controlled burning methods approved by the Director.

(ii) The burning is conducted under such other reasonable conditions as the permit issuing authority may impose.

(3) Permit Issuers. In addition to the Agency, the following persons are authorized to accept applications and issue open burning permits:

(aa) A Department of Natural Resources forest officer for locations within his jurisdiction.

(bb) A local Department of Natural Resources Fire Warden for locations within his jurisdiction.

(cc) Upon approval of the Agency, a local pollution control agency for locations within its jurisdiction.

(dd) A person(s) designated by the county board of commissioners and approved by the Director for locations within the county but outside the corporate limits of cities within the county.

(ee) Upon the approval of the Director, either a fire chief or a person designated by a township or city for locations within the jurisdiction of said governmental unit.

(ff) A Regional Director of the Agency or an employee of the Agency authorized by the Director, who may in their discretion refer the applicant to a local permit issuing authority.

(4) Permit Denial. Any permit application submitted pursuant to this regulation shall be denied if:

(aa) A reasonable, practical alternative method of disposal of the material is available.

(bb) A nuisance condition would result from the burning.

(5) Permit Revocation. Any permit is subject to revocation at the discretion of the Director, a Department of Natural Resources Forest Officer, the local fire marshal or fire chief, or the permit issuer, if:

(aa) A reasonable practical method of disposal of the material is found;

(bb) A fire hazard exists or develops during the course of the burning; or

(cc) Any of the conditions of the permit are violated.

(g) Liability

Exemption to conduct open burning or the granting of an open burning permit under any provisions of this regulation does not excuse a person from the consequences, damages or injuries which may result therefrom.

(h) Conflicting Laws

Nothing in this regulation shall be construed to allow open burning in those areas in which open burning is prohibited by other laws, regulations or ordinances.

(i) Recreational Fires

Fires set for recreational, ceremonial, food preparation, or social purposes are permitted provided only wood, coal, or charcoal is burned.

APC 13 STANDARDS OF PERFORMANCE FOR STORAGE VESSELS FOR PETROLEUM LIQUIDS

(a) Definitions

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

(1) "Storage vessel" means any tank, reservoir, or container used for the storage of petroleum liquids, but does not include:

(aa) Pressure vessels which are designed to operate in excess of 15 pounds per square inch gauge without emissions to the atmosphere except under emergency conditions.

(bb) Subsurface caverns or porous rock reservoirs, or

(cc) Underground tanks if the total volume of petroleum liquids added to and taken from a tank annually does not exceed twice the volume of the tank.

(2) "Petroleum liquids" means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery but does not mean Number 2 through Number 6 fuel oils as specified in A.S.T.M. D396-69, gas turbine fuel oils Numbers 2-GT through 4-GT as specified in A.S.T.M. D2880-71, or diesel fuel oils Numbers 2-D and 4-D as specified in A.S.T.M. D975-68.

(3) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual

fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking, or reforming of unfinished petroleum derivatives.

(4) "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(5) "Hydrocarbon" means any organic compound consisting predominantly of carbon and hydrogen.

(6) "Condensate" means hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions.

(7) "Custody transfer" means the transfer of produced petroleum and/or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(8) "Drilling and production facility" means all drilling and servicing equipment, wells, flow lines, separators, equipment, gathering lines, and auxiliary nontransportation-related equipment used in the production of petroleum but does not include natural gasoline plants.

(9) "True vapor pressure" means the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, Evaporation Loss from Floating Roof Tanks, 1962.

(10) "Floating roof" means a storage vessel cover consisting of a double deck, pontoon single deck, internal floating cover or covered floating roof, which rests upon and is supported

by the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank wall.

(11) "Vapor recovery system" means a vapor gathering system capable of collecting all hydrocarbon vapors and gases discharged from the storage vessel and a vapor disposal system capable of processing such hydrocarbon vapors and gases so as to prevent their emission to the atmosphere.

(12) "Reid vapor pressure" is the absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquified petroleum gases, as determined by A.S.T.M.-D-323-58 (reapproved 1968).

(13) "Submerged fill pipe" means any fill pipe the discharge opening of which is entirely submerged when the liquid level is six inches above the bottom of the storage vessel. When applied to a storage vessel which is loaded from the side, "submerged fill pipe" means any fill pipe the discharge opening of which is entirely submerged when filling except for filling after the vessel has been emptied for cleaning and repairs.

(b) Standards of Performance for Storage Vessels

(1) Pre 1969 Storage Vessels.

There are no standards of performance promulgated in this regulation for storage vessels for which construction was commenced prior to July 7, 1969.

(2) July 7, 1969, to June 11, 1973, Storage Vessels.

(aa) There are no standards of performance promulgated in this regulation for storage vessels with a storage capacity of 2,000 gallons (7,571 liters) or less for which construction was commenced after July 7, 1969, but prior to June 11, 1973.

(bb) The owner or operator of any storage vessel with a storage capacity of greater than 2,000 gallons (7,571 liters) but less than or equal to 65,000 gallons (246,405 liters) for which construction was commenced after July 9, 1969, but prior to June 11, 1973, shall equip the storage vessel with a permanent submerged fill pipe or comply with the requirements of paragraph (b)(3)(cc) of this regulation.

(cc) The owner or operator of any storage vessel with a storage capacity of greater than 65,000 gallons (246,405 liters) for which construction was commenced after July 7, 1969, but prior to June 11, 1973, shall comply with the following requirements:

(i) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 128 mm Hg (2.5 psia) but not greater than 642 mm Hg (12.5 psia) the storage vessel shall be equipped with a floating roof, a vapor recovery system or their equivalents.

(ii) If the true vapor pressure of the petroleum liquid, as stored, is greater than 642 mm Hg (12.5 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent.

(3) Post June 11, 1973, Storage Vessels.

(aa) There are no standards of performance promulgated in this regulation for storage vessels with a storage capacity of 2,000 gallons (7,571 liters) or less for which construction was commenced on or after June 11, 1973.

(bb) The owner or operator of any storage vessel with a storage capacity of greater than 2,000 gallons (7,571 liters) but less than or equal to 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall equip the storage vessel with a permanent submerged fill pipe or comply with the requirements of paragraph (b)(3)(cc) of this regulation.

(cc) The owner or operator of any storage vessel with a storage capacity of greater than 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall comply with the following requirements:

(i) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system, or their equivalents.

(ii) If the true vapor pressure of the petroleum liquid as stored is greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent.

(c) Monitoring of Operations

(1) The owner or operator of any storage vessel, the construction or modification of which commenced on or after June 11, 1973, which has a storage capacity of greater than 40,000 gallons (151,412 liters) shall for each storage vessel:

(aa) Maintain a file of each type of petroleum liquid stored, of the typical Reid vapor pressure of each type of petroleum liquid stored, of the dates of storage and withdrawals, and of the dates on which the storage vessel is empty.

(bb) Determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if:

(i) The petroleum liquid has a true vapor pressure, as stored, greater than 26 mm Hg (0.5 psia) but less than 78 mm Hg (1.5 psia) and is stored in a storage vessel other than one equipped with a floating roof, a vapor recovery system or their equivalents; or

(ii) The petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg (9.1 psia) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent.

(2) The average monthly storage temperature is an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a month, from bulk liquid storage temperatures determined at least once every 7 days.

(3) The true vapor pressure shall be determined by the procedure in American Petroleum Institute Bulletin 2517. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the Agency or the Director requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, that Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available on request of the Agency or the Director when typical Reid vapor pressure is used.

(d) Exception

The provisions of this requlation do not apply to storage vessels for petroleum or condensate stored, processed, or treated at a "drilling and production" facility prior to custody transfer.

FINAL

March 14, 1975
As Amended (December 2,1975)

APC 22 STANDARDS OF PERFORMANCE FOR PORTLAND CEMENT PLANTS

(a) Portland Cement Plant.

As used in this regulation "portland cement plant" means any facility manufacturing portland cement by either the wet or dry process.

(b) Standards of Performance for Existing Portland Cement Plants

(1) No owner or operator of an existing portland cement plant shall cause or allow the discharge into the atmosphere any gases which:

(aa) Contain particulate matter in excess of the limits established by Minnesota Regulation APC 5, or

(bb) Exhibit greater than 20 percent opacity, except that a maximum of 40 percent opacity shall be permissible for not more than 4 minutes in any 30 minute period and a maximum of 60 percent opacity shall be permissible for not more than 4 minutes in any 60 minute period.

(2) The requirements of this section are applicable to the kiln, the clinker cooler, the raw mill system, the raw mill dryer, raw material storage, the finish mill system, clinker storage, fimished product storage, conveyor transfer points, and bagging and bulk loading and unloading systems.

(c) Standards of Performance for New Portland Cement Plants

(1) No owner or operator of a new portland cement plant shall cause or allow the discharge into the atmosphere from the kiln any gases which:

(aa) Contain particulate matter in excess of 0.15 kilogram per metric ton (0.30 pound per ton) of feed (dry basis) to the kiln; or

(bb) Exhibit greater than 20 percent opacity.

(2) No owner or operator of a new portland cement plant shall cause or allow the discharge into the atmosphere from the clinker cooler any gases which:

(aa) Contain particulate matter in excess of 0.050 kg per metric ton of feed (dry basis) to the kiln (0.10 lb per ton); or

(bb) Exhibit greater than 10 percent opacity.

(3) No owner or operator of a new portland cement plant shall cause or allow the discharge into the atomosphere from the raw mill system, the raw mill dryer, raw mill storage, the finish mill system, clinker storage, finished product storage, conveyor transfer points, or the bagging and bulk loading and unloading systems any gases which exhibit greater than 10 percent opacity.

(d) Monitoring of Operations

The owner or operator of any portland cement plant shall record the daily production rates and kiln feed rates.

(e) Performance Test Methods

Unless another method is approved by the Agency, any owner or operator required to submit performance tests for a portland cement plant shall utilize the following test methods:

(1) Method 5 for the concentration of particulate matter and the associated moisture content.

(2) Method 1 for sample and velocity traverses.

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

(4) Method 3 for gas analysis.

(5) Method 9 for visual determination of opacity.

(f) Performance Test Procedures

(1) In testing for the concentration of particulate matter and the associated moisture content, the minimum sampling time and minimum sample volume for each run, except when other times and volumes are approved by the Agency, shall be as follows:

(aa) 60 minutes and 30 dscf (0.85 dscm) for the kiln.

(bb) 60 minutes and 40.6 dscf (1.15 dscm) for the clinker cooler.

(2) Total kiln feed rate (except fuels) expressed in tons per hour on a dry basis, shall be determined during each testing period by a method approved by the Agency, and shall be confirmed by a material balance over the production system.

(3) For each run, particulate matter emissions, expressed in pounds per ton of kiln feed, shall be determined by dividing the emission rate in pounds per hour by the kiln feed rate. The emission rate shall be determined by the equation, lb/hr = $Q_s$xc, where Q_s = volumetric flow rate of the total effluent in dscf/hr as determined in accordance with subsection (e)(3), and c = particulate concentration in lb/dscf as determined in accordance with subsection (e)(1).

FINAL

March 14, 1975
As Amended (December 2,1975

APC 23 STANDARDS OF PERFORMANCE FOR ASPHALT CONCRETE PLANTS

(a) Asphalt Concrete Plant.

"Asphalt concrete plant" means any facility used to manufacture asphalt concrete by heating and drying aggregate and mixing with asphalt cements. "Asphalt concrete plant" includes dryers, systems for screening, handling, storing, and weighing hot aggregate, systems for loading, transferring and storing mineral filler, systems for mixing asphalt concrete, and the loading, transfer, and storage systems associated with emission control systems.

(b) Standards of Performance for Existing Asphalt Concrete Plants

No owner or operator of an existing asphalt concrete plant shall cause to be discharged into the atmosphere from the asphalt concrete plant any gases which:

(1) Contain particulate matter in excess of the limits allowed by Minnesota Regulation APC 5, or

(2) Exhibit greater than 20 percent opacity, except that a maximum of 40 percent opacity shall be permissible for not more than 4 minutes in any 30 minute period and a maximum of 60 percent opacity shall be permissible for not more than 4 minutes in any 60 minute period.

(c) Standards of Performance for New Asphalt Concrete Plants

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

(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf); or

(2) Exhibit 20 percent opacity or greater.

(d) Test Methods

Unless another method is approved by the Agency, any owner or operator required to submit performance tests for an asphalt concrete plant shall utilize the following test methods:

(1) Method 5 for the concentration of particulate matter and the associated moisture content.

(2) Method 1 for sample and velocity traverses.

(3) Method 2 for volocity and volumetric flow rate.

(4) Method 3 for gas analysis.

(e) Performance Test Procedures

For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Agency.

FINAL

DRAFT
January 16, 1976

Chapter 24: APC 24

APC 24 STANDARDS OF PERFORMANCE FOR PETROLEUM REFINERIES

(a) Definitions

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

(1) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oil, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives. "Petroleum refinery" includes fluid catalytic cracking unit catalyst regenerators, fluid catalytic cracking unit incinerator-waste heat boilers, fuel gas combustion devices, and all indirect heating equipment associated with the refinery.

(2) "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(3) "Process gas" means any gas generated by a petroleum refinery process unit, except fuel gas and process upset gas as defined in this section.

(4) "Fuel gas" means any gas which is generated by a petroleum refinery process unit and which is combusted, including any gaseous mixture of a natural gas and fuel gas which is combusted.

(5) "Process upset gas" means any gas generated by a petroleum refinery process unit as a result of start-up, shut-down, upset or malfunction.

(6) "Refinery process unit" means any segment of the petroleum refinery in which a specific processing operation is conducted.

(7) "Fuel gas combustion device" means any equipment, such as process heaters, boilers and flares used to combust fuel gas, but does not include fluid coking units and fluid catalytic cracking unit incinerator-waste heat boilers and facilities in which gases are combusted to produce sulfur or sulfuric acid.

(8) "Coke burn-off" means the coke removed from the surface of the fluid catalytic cracking unit catalyst by combustion in the catalyst regenerator. The rate of coke burn-off is calculated by the formula specified in subsection (f)(5).

(9) "Indirect heating equipment" means a furnace, boiler or other unit of combustion equipment used in the process of burning fossil fuel for the purpose of producing steam, hot water, hot air, or other hot liquid, gas, or solid, where the products of combustion do not have direct contact with the heated medium. "Indirect heating equipment" includes all fuel gas combustion devices which burn a liquid or solid fossil fuel but does not include fluid catalytic cracking unit incinerator-waste heat boilers, fluid coking units, and facilities in which gases are combusted to produce sulfur or sulfuric acid.

(10) "Fossil fuel" means natural gas, petroleum, coal, wood, and any form of solid, liquid, or gaseous fuel derived from such materials.

(11) "Steam generating unit" means indirect heating equipment used to produce steam.

(12) "Heat input" means the number of BTU per hour (cal/hr) determined by multiplying the high heating value (BTU/lb) (cal/gm) of each fossil fuel or fuel gas that is fired in the indirect heating equipment or fuel gas combustion device at the time of determining the heat input times the rate of each fuel burned (lb/hr) (gm/hr).

(13) "High heating value" means the number of (BTU/lb (cal/gm) of a fossil fuel as determined by the A.S.T.M. test methods described in Minnesota Regulation APC 4(f).

(b) Standards of Performance for Existing Affected Facilities at Petroleum Refineries

(1) Fluid Catalytic Cracking Unit Catalyst Regenerator and Incinerator-Waste Heat Boiler

No owner or operator of an existing fluid catalytic cracking unit catalyst regenerator or its incinerator-waste heat boiler at a petroleum refinery shall cause to be discharged into the atmosphere from such regenerator or its incinerator-waste heat boiler any gases which:

(aa) Contain particulate matter in excess of 10.0 lb/1000 lb (10.0 kg/1000 kg) of coke burn-off in the catalyst regenerator, or

(bb) Exhibit greater than 30 percent opacity, except that 30 percent opaciity may be exceeded for 3 minutes in any 60 minute period and except that this opacity standard shall not apply during periods of soot blowing.

(cc) If auxiliary liquid or solid fossil fuels are burned in the fluid catalytic cracking unit incinerator-

waste heat boiler, particulate matter in excess of that permitted by subsection (aa) may be emitted provided that the incremental rate of particulate emissions shall not exceed 0.4 pounds per million BTU (0.72 grams per million cal) of heat input attributable to such liquid or solid fossil fuel.

(2) Fuel Gas Combustion Device and Indirect Heating Equipment

No owner or operator of existing fuel gas combustion devices and indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such devices and equipment any gases which contain sulfur dioxide in excess of 1.75 pounds per million BTU (3.15 grams per million cal) heat input. The total emissions of sulfur dioxide from all existing fuel gas combustion devices and all indirect heating equipment shall be divided by the total heat input of all such devices and equipment to determine compliance with this section; provided that no owner or operator shall cause to be discharged from any one fuel gas combustion device or any one unit of indirect heating equipment any gases which contain sulfur dioxide in excess of 3.0 pounds per million BTU (5.4 grams per million cal) heat input.

(3) Indirect Heating Equipment

No owner or operator of existing indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such equipment any gases which:

(aa) Contain particulate matter in excess of 0.4 pounds per million BTU (0.72 grams per million cal) heat input; or

(bb) Exhibit greater than 20% opacity, except that a maximum of 60% opacity shall be permissible for four minutes in any 60 minute period and that a maximum of 40% opacity shall be permissible for four additional minutes in any 60 minute period.

(c) Standards of Performance for New Affected Facilities at Petroleum Refineries

(1) Fluid Catalytic Cracking Unit Catalyst Regenerator and Incinerator-Waste Heat Boiler

(aa) No owner or operator of a new fluid catalytic cracking unit catalyst regenerator or its incinerator-waste heat boiler at a petroleum refinery shall cause to be discharged into the atmosphere from such regenerator or incinerator-waste heat boiler any gases which:

(i) Contain particulate matter in excess of 1.0 lb/1000 lb (1.0 kg/1000 kg) of coke burn-off in the catalyst regenerator, or

(ii) Exhibit greater than 30 percent opacity, except that 30 percent opacity may be exceeded for 3 minutes in any 60 minute period.

(iii) If auxiliary liquid or solid fossil fuels are burned in the fluid catalytic cracking unit incinerator-waste heat boiler, particulate matter in excess of that permitted by subsection (aa)(i) may be emitted provided that the incremental rate of particulate emissions shall not exceed 0.1 pound per million BTU of heat input attributable to such liquid or solid fossil fuel.

(bb) No owner or operator of a new fluid catalytic cracking unit catalyst regenerator at a petroleum refinery shall cause to be discharged into the atmosphere from such regenerator any gases which contain carbon monoxide in excess of 0.050 percent by volume.

(2) Fuel Gas Combustion Device

No owner or operator of a new fuel gas combustion device at a petroleum refinery shall burn in any such device any fuel gas which contains H_2S in excess of 0.10 gr/dscf, (230 mg/dscm) except as provided herein. The owner or operator may elect to treat the gases resulting from the combustion of fuel gas in a manner which limits the release of SO_2 to the atmosphere if it is shown to the satisfaction of the Director that this prevents SO_2 emissions as effectively as compliance with the H_2S restriction set forth above.

(3) Indirect Heating Equipment

(aa) No owner or operator of new indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such equipment any gases which contain sulfur dioxide in excess of 1.75 pounds per million BTU (3.15 grams per million cal) heat input. The total emissions of sulfur dioxide from all existing and new fuel gas combustion devices and indirect heating equipment shall be divided by the total heat input of all such devices and equipment to determine compliance with this section; provided that no owner or operator shall cause to be discharged from any one unit of new indirect

heating equipment any gases which contain sulfur dioxide in excess of 3.0 pounds per million BTU (5.4 grams per million cal) heat input.

(bb) No owner or operator of new indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such equipment any gases which:

(i) Contain particulate matter in excess of 0.4 pounds per million BTU (0.72 grams per million cal) heat input; or

(ii) Exhibit greater than 20% opacity, except that a maximum of 60% opacity shall be permissible for four minutes in any 60 minute period and that a maximum of 40% opacity shall be permissible for four additional minutes in any 60 minute period.

(cc) The owner or operator of a new steam generating unit of more than 250 million BTU per hour (63 million cal per hour) heat input at a petroleum refinery shall comply with the following requirements:

(i) No gases shall be discharged from the steam generating unit which contain particulate matter in excess of 0.1 pounds per million BTU (0.18 grams per million cal) heat input.

(ii) No gases shall be discharged which exhibit greater than 20% opacity, except that a maximum of 40% opacity shall be permissible for two minutes in any hour.

(iii) No gases shall be discharged which contain sulfur dioxide in excess of 0.80 pounds per million

BTU (1.4 grams per million cal) heat input if a liquid fossil fuel is burned and 1.2 pounds per million BTU (2.2 grams per million cal) heat input if a solid fossil fuel is burned. When different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula:

$$x = \frac{y(0.8) + z(1.2)}{y + z} \qquad \text{(English units)}$$

where:

x is the maximum allowable emissions of sulfur dioxide gases in lbs. per million BTU, and

y is the percentage of total heat input derived from liquid fossil fuel, and

z is the percentage of total heat input derived from solid fossil fuel, and

compliance shall be based on the total heat input from all fossil fuel burned including gaseous fuels.

(d) Exemptions

(1) The combustion of process upset gas in a flare, or the combustion in a flare of process gas or fuel gas which is released to the flare as a result of relief valve leakage, is exempt from the standards of performance set forth in this regulation.

(2) The standards of performance promulgated in Minnesota Regulations APC 4 for indirect heating equipment shall not apply to indirect heating equipment at a petroleum refinery. Only those standards of performance for indirect heating equipment set forth in this regulation shall apply to such equipment.

(e) Emission Monitoring

(1) Fluid Catalytic Cracking Unit Catalyst Regenerators.

(aa) Opacity

(i) The owner or operator of any new fluid catalytic unit catalyst regenerator and the owner or operator of an existing fluid catalytic cracking unit catalyst regenerator for fluid bed catalyst cracking units of greater than 20,000 barrels per day fresh feed capacity shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of opacity of emissions discharged into the atmosphere from the regenerator.

(ii) The continuous monitoring system shall be spanned at 60, 70, or 80 percent opacity.

(bb) Coke Burn-off

The average coke burn-off rate (thousands of pounds per hour or thousands of kilograms per hour) and hours of operation of any fluid catalytic cracking unit catalyst regenerator shall be recorded daily.

(2) Fuel Gas Combustion Devices.

(aa) Sulfur Dioxide

(i) The owner or operator of a new fuel gas combustion device at a petroleum refinery shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of sulfur dioxide in the gases discharged into the atmosphere.

(ii) The pollutant gas used to prepare calibration gas mixtures and for calibration checks shall be sulfur dioxide (SO_2).

(iii) The span shall be set at 100 ppm.

(iv) Reference Method 6 shall be used for conducting monitoring system performance specifications.

(v) For the purpose of reports under Minnesota Regulations APC 21(c)(1)(bb)(ii), periods of excess emissions that shall be reported are defined as any six-hour period during which the average emissions (arithmetic average of six continuous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standards of performance in this regulation.

(bb) Hydrogen Sulfide

The owner or operator of a new fuel gas combustion device at a petroleum refinery may elect to install a continuous monitoring system for the measurement of hydrogen sulfide in the fuel gas instead of the sulfur dioxide monitor described in this subsection. The owner or operator shall notify the Director in writing of such election. The owner or operator who elects to install the hydrogen sulfide monitor shall not be required to do so until monitoring requirements for such a system are promulgated; provided, however, the Director may require the installation of a sulfur dioxide monitor under the provisions of Minnesota Regulations APC 21(a)(1).

(3) Incinerator Waste Heat Biolers.

The owner or operator of any fluid catalytic cracking unit catalyst regenerator at a petroleum refinery which utilizes an incinerator-waste heat boiler to combust the exhaust gases

from the catalyst regenerator shall record daily the rate of combustion of liquid or solid fossil fuels (gallons per hour or liters per hour, pounds per hour or kilograms per hour) and the hours of operation during which liquid or solid fossil fuels are combusted in the incinerator-waste heat boiler.

(e) Performance Test Methods

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

(1) For gases released to the atmosphere from the fluid catalytic cracking unit catalyst regenerator:

(aa) Method 5 for the concentration of particulate matter and moisture content,

(bb) Method 1 for sample and velocity traverses,

(cc) Method 2 for velocity and volumetric flow rate,

(dd) Method 9 for visual determination of the opacity of emissions from stationary sources,

(ee) Method 10 for carbon monoxide.

(2) For exhaust gases from the fluid catalytic cracking unit catalyst regenerator prior to the emission control system:

(aa) Method 3 for gas analysis,

(bb) Method 4 for moisture content,

(cc) Method 1 for sample and velocity traverses,

(dd) Method 2 for velocity and volumetric flow rate.

(3) For determining the concentration of H_2S in any fuel gas, Method 11 shall be used.

(4) For gases released to the atmosphere from the combustion of fuel gas, fossil fuel, and the combination of fuel gas and fossil fuel:

(aa) Method 1 for sample and velocity traverses,

(bb) Method 2 for velocity and volumetric flow rate,

(cc) Method 6 for concentration of SO_2,

(dd) Method 5 for the concentration of particulate matter and moisture content,

(ee) Method 9 for visual determination of the opacity of emissions from stationary sources.

(f) Performance Test Procedures

(1) For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm (0.53 dscf/min), except that shorter sampling times may be approved by the Agency when process variable or other factors preclude sampling for at least 60 minutes.

(2) For Method 10, the sample shall be extracted at a rate proportional to the gas velocity at a sampling point near the centroid of the duct. The sampling time shall not be less than 60 minutes.

(3) For Method 11, when refinery fuel gas lines are operating at pressures substantially above atmospheric, the gases sampled must be introduced into the sampling train at approximately atmospheric pressure. This may be accomplished with a flow control valve. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train. The sample shall be drawn from a point near the centroid of the fuel gas line. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples shall constitute one run.

Samples shall be taken at approximately 1-hour intervals. For most fuel gases, sample times exceeding 20 minutes may result in depletion of the collecting solution, although fuel gases containing law concentrations of hydrogen sulfide may necessitate sampling for longer periods of time.

(4) The sampling site for determining SO_2 concentration by Method 6 shall be the same as for determining volumetric flow rate by Method 2. The sampling point in the duct for determining SO_2 concentration by Method 6 shall be at the centroid of the cross section if the cross sectional area is less than 5 m^2 (54 ft^2) or at a point no closer to the walls than 1 m (39 inches) if the cross sectional area is 5 m^2 or more and the centroid is more than one meter from the wall. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples shall constitute one run. Samples shall be taken at approximately 1-hour intervals.

(5) Coke burn-off rate shall be determined by the following formula:

$$R_c = 0.2982\ Q_{RE}(\%CO_2 + \%CO) + 2.088\ Q_{RA} - 0.0994\ Q_{RE}\left(\frac{\%CO}{2} + \%CO_2 + \%O_2\right) \text{ (Metric Units)}$$

$$R_c = 0.0186\ Q_{RE}(\%CO_2 + \%CO) + 0.1303\ Q_{RA} - 0.0062\ Q_{RE}\left(\frac{\%CO}{2} + \%CO_2 + O_2\right) \text{ (English Units)}$$

where:

R_C =coke burn-off rate, kg/hr (English units lb/hr).

0.2982 =metric units material balance factor divided by 100, kg-min/hr-m^3.

0.0186 =English units material balance factor divided by 100, lb-min/hr-ft^3.

Q_{RE}=fluid catalytic cracking unit catalyst regenerator exhaust gas flow rate before entering the emission control system, as determined by method 2, dscm/min (English units: dscf/min).

$\%CO_2$=percent carbon dioxide by volume, dry basis, as determined by Method 3.

%CO =percent carbon monoxide by volume, dry basis, as determined by Method 3.

$\%O_2$=percent oxygen by volume, dry basis, as determined by Method 3.

2.088=metric units material balance factor divided by 100, kg-min/hr-m^3.

0.1303=English units material balance factor divided by 100, lb-min/hr-ft^3.

Q_{RA}=air rate to fluid catalytic cracking unit catalyst regenerator, as determined from fluid catalytic cracking unit control room instrumentation, dscm/min (English units: dscf/min).

0.0994=metric units material balance factor divided by 100, kg-min/hr-m^3.

0.0062=English units material balance factor divided by 100, lb-min/hr-ft^3.

(6) Particulate emissions shall be determined by the following equation:

$$R_E = (60 \times 10^{-6}) Q_{RV} C_S \quad \text{(Metric Units)}$$

or

$$R_E = (8.57 \times 10^{-3}) Q_{RV} C_S \quad \text{(English Units)}$$

where:

R_E =particulate emission rate, kg/hr (English units: lb/hr)

60×10^{-6}=metric units conversion factor, min-kg/hr-mg.

8.57×10^{-3}=English units conversion factor, min-lb/hr-gr.

Q_{RV}=volumetric flow rate of gases discharged into the atmosphere from the fluid catalytic cracking unit catalyst regenerator following the emission control system, as determined by Method 2, dscm/min (English units: dscf/min).

C_s = particulate emission concentration discharged into the atmosphere, as determined by Method 5, mg/dscm (English units: gr/dscf).

(7) For each run, emissions expressed in kg/1000 kg (lb/1000 lb) of coke burn-off in the catalyst regenerator shall be determined by the following equation:

$$R_s = 1000 \frac{R_E}{R_C} \quad \text{(Metric or English Units)}$$

where:

R_S =particulate emission rate, kg/1000 kg (lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.

1000=conversion factor, kg to 100 kg (lb tol000 lb).

R_E=particulate emission rate, kg/hr (lb/hr).

R_C=coke burn-off rate, kg/hr (lb/hr).

(8) In those instances in which auxiliary liquid or solid fossil fuels are burned in an incinerator-waste heat boiler, the rate of particulate matter emissions permitted must be determined. Auxiliary fuel heat input, expressed in millions of cal/hr (English units: Millions of BTU/hr) shall be calculated for each run by fuel flow rate measurement and analysis of the liquid or solid auxiliary fossil fuels. For each run, the rate of particulate emissions permitted shall be calculated from the following equation:

New Affected Facilities	Existing Affected Facilities	
$R_a = 1.0 + \frac{0.18\ H}{R_c}$	$R_a = 10.0 + \frac{0.72\ H}{R_c}$	(Metric Units)
or		
$R_a = 1.0 + \frac{0.10\ H}{R_c}$	$R_a = 10.0 + \frac{0.4\ H}{R_c}$	(English Units)

where:

R_a = allowable particulate emission rate, kg/1000 kg (English units: lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.

1.0 = emission standard for new affected facilities, 1.0 kg/1000 kg (English units: 1.0 lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.

10.0 = emission standard for existing affected facilities.

0.18 = metric units maximum allowable incremental rate of particulate emissions for new affected facilities, g/million cal.

0.10 = English units maximum allowable incremental rate of particulate emissions for new affected facilities, lb/million BTU.

0.72 = metric units maximum allowable incremental rate of particulate emissions for existing affected facilities, g/million cal.

0.4 = English units maximum allowable incremental rate of particulate emissions for existing affected facilities, lb/million BTU.

H = heat input from solid or liquid fossil fuel, million cal/hr (English units: million BTU/hr).

R_c = coke burn-off rate, kg/hr (English units: lb/hr).

FINAL

March 14, 1975
As Amended (December 2, 1975)

APC 28 STANDARDS OF PERFORMANCE FOR SEWAGE SLUDGE INCINERATORS

(a) Definitions

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

(1) "Sewage sludge incinerator" means any furnace or other device used in the process of burning sludge produced by a sewage treatment facility.

(2) "Burning capacity" means the manufacturer's or designer's maximum rate or such other rate that is considered good engineering practice and accepted by the Director.

(b) Standards of Performance for Existing Sewage Sludge Incinerators

(1) No owner or operator of an existing sewage sludge incinerator shall cause to be discharged into the atmosphere from the sewage sludge incinerator any gases which:

(aa) Contain particulate matter in excess of 0.3 gr/dscf corrected to 12 percent CO_2 if the incinerator has a burning capacity of less than 200 pounds per hour.

(bb) Contain particulate matter in excess of 0.2 gr/dscf corrected to 12 percent CO_2 if the incinerator has a burning capacity of 200 to 2000 pounds per hour.

(cc) Contain particulate matter in excess of 0.1 gr/dscf corrected to 12 percent CO_2 if the incinerator has a burning capacity of greater than 2000 pounds per hour.

(2) No owner or operator of an existing sewage sludge incinerator shall cause to be discharged into the atmosphere from the incinerator any gases which exhibit greater than 20 percent opacity, except that a maximum of 40 percent opacity shall be permissible for four minutes in any 60 minute period.

(3) No owner or operator of an existing sewage sludge incinerator shall operate such incinerator unless such incinerator utilizes auxiliary fuel burners that

maintain a minimum temperature of 1200°F for a minimum retention time of 0.3 second or other method of odor control as approved by the Director.

(c) Standards of Performance for New Sewage Sludge Incinerators

(1) No owner or operator of a new sewage sludge incinerator shall cause to be discharged into the atmosphere from the incinerator any gases which:

(aa) Contain particulate matter in excess of 0.65 g/kg dry sludge input (1.30 lb/ton dry sludge input), or

(bb) Exhibit 20 percent opacity or greater.

(2) No owner or operator of a new sewage sludge incinerator shall operate such incinerator unless such incinerator utilizes auxiliary fuel burners that maintain a minimum temperature of 1200°F for a minimum retention time of 0.3 second or other method of odor control as approved by the Director.

(d) Monitoring of Operations

The owner or operator of any sewage sludge incinerator shall:

(1) Install, calibrate, maintain, and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to the incinerator. The flow measuring device shall have an accuracy of ± 5 percent over its operating range.

(2) Provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained.

(e) Performance Test Methods

Unless another method is approved by the Agency, any owner or operator required to submit performance tests for a sewage sludge incinerator shall utilize the following methods:

(1) Method 5 for concentration of particulate matter and associated moisture content,

(2) Method 1 for sample and velocity traverses,

(3) Method 2 for volumetric flow rate, and

(4) Method 3 for gas analysis.

(f) Performance Test Procedures

(1) For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Agency.

(2) Dry sludge charging rate shall be determined as follows:

(aa) Determine the mass (S_M) or volume (S_V) of sludge charged to the incinerator during each run using a flow measuring device meeting the requirements of section (d)(1). If total input during a run is measured by a flow measuring device, such readings shall be used. Otherwise, record the flow measuring device readings at 5-minute intervals during a run. Determine the quantity charged during each interval by averaging the flow rates at the beginning and end of the interval and then multiplying the average for each interval by the time for each interval. Then add the quantity for each interval to determine the total quantity charged during the entire run, (S_M) or S_V).

(bb) Collect samples of the sludge charged to the incinerator in non-porous collecting jars at the beginning of each run and at approximately 1-hour intervals thereafter until the test ends, and determine for each sample the dry sludge content (total solids residue) in accorance with "224 G. Method for Solid and Semisolid Samples," Standard Methods for the Examination of Water and Wastewater, Thirteenth Edition, American Public Health Association, Inc., New York, N.Y., 1971, pp. 539-41, except that:

(i) Evaporating dishes shall be ignited to at least 103°C rather than the 550°C specified in step 3(a)(1).

(ii) Determination of volatile residue, step 3(b) may be deleted.

(iii) The quantity of dry sludge per unit sludge charged shall be determined in terms of either R_{Dv} (metric units: mg dry sludge/liter sludge charged or English units: lb/ft^3) or R_{DM} (metric units: mg dry sludge/mg sludge charged or English units: lb/lb).

(cc) Determine the quantity of dry sludge per unit sludge charged in terms of either R_{DV} or R_{DM}.

(i) If the volume of sludge charged is used:

$$S_D = (60 \times 10^{-3}) \frac{R_{Dv} S_v}{T} \quad \text{(Metric Units)}$$

or

$$S_D = (8.021) \frac{R_{Dv} S_v}{T} \quad \text{(English Units)}$$

where:

S_D = average dry sludge charging rate during the run, kg/hr (English units: lb/hr).

R_{DV} = average quantity of dry sludge per unit volume of sludge charged to the incinerator, mg/l (English units: lb/ft^3).

S_V = sludge charged to the incinerator during the run, m^3 (English units: gal).

T = duration of run, min (English units: min).

60×10^{-3} = metric units conversion factor, 1-kg-min/m^3-mg-hr.

8.021 = English units conversion factor, ft^3-min/gal-hr.

(ii) If the mass of sludge charged is used:

$$S_D = (60) \frac{R_{DM} S_M}{T} \quad \text{(Metric or English Units)}$$

where:

S_D = average dry sludge charging rate during the run, kg/hr (English units: lb/hr).

R_{DM} = average ratio of quantity of dry sludge to quantity of sludge charged to the incinerator, mg/mg (English units: lb/lb).

S_M = sludge charged during the run, kg (English units: lb).

T = duration of run, min (Metric or English units).

60 = conversion factor, min/hr (Metric or English units).

(3) Particulate emission rate shall be determined by:

$$C_{aw} = C_s Q_s \quad \text{(Metric or English Units)}$$

where:

C_{aw} = Particulate matter mass emissions, mg/hr (English units: lb/hr).

C_s = Particulate matter concentration, mg/m^3 (English units: lb/dscf).

Q_s = Volumetric stack gas flow rate, dscm/hr (English Units: dscf/hr). Q_s and c_s shall be determined using Methods 2 and 5, respectively.

(4) Compliance with subsection (c) shall be determined as follows:

$$C_{ds} = (10^{-3}) \frac{C_{aw}}{S_D} \quad \text{(Metric Units)}$$

or

$$C_{ds} = (2000) \frac{C_{aw}}{S_D} \quad \text{(English Units)}$$

where:

C_{ds} = particulate emission dishcarge, g/kg dry sludge (English units: lb/ton dry sludge):

10^{-3} = Metric conversion factor, g/mg.

2000 = English conversion factor, lb/ton

FINAL December 23, 1975

APC 29 STANDARDS OF PERFORMANCE FOR GRAIN HANDLING FACILITIES

(a) Definitions

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

(1) "Grain handling facility" means an emission facility used in the process of handling, storing, processing, or drying grain or seed.

(2) "Grain throughput" means the number of bushels of grain or seed processed by the grain handling facility in any one year and shall be determined by averaging previous or anticipated grain or seed receipts or shipments for three consecutive fiscal years including the fiscal year in progress at the time of the averaging.

(b) Standards of Performance for All Grain Handling Facilities

(1) The owner or operator of a grain handling facility, regardless of size and location and whether the facility is new or existing, shall follow and maintain good operating and housekeeping practices at all times.

(c) Standards of Performance for Existing Grain Handling Facilities

(1) The owner or operator of an existing grain handling facility located in the Minneapolis-St. Paul Air Quality Control Region or within a city with a population of 5000 or more shall apply induced draft to all sources of particulate emissions and shall convey these emissions through control equipment which has a particulate collection efficiency of not less than 99% by weight.

(2) The owner or operator of an existing grain handling facility located outside the Minneapolis-St. Paul Air Quality Control Region but within a city with a population of 2500 or more but less than 5000 shall apply induced draft to all sources of particulate emissions and shall convey these emissions through control equipment which has a particulate collection efficiency of not less than:

(aa) 99% by weight if the grain throughput of the facility is 4 million bushels or more; and

(bb) 85% by weight if the grain throughput of the facility is less than 4 million bushels.

(3) The owner or operator of an existing grain handling facility located in a location other than one described in (c)(1) or (c)(2) shall:

(aa) Apply induced draft to all sources of particulate emissions and convey these emissions through control equipment which has a particulate collection efficiency of not less than 85% by weight if the grain throughput of the facility is 4 million bushels or more; and

(bb) Not be required to apply induced draft if the grain throughput of the facility is less than 4 million bushels, but if induced draft is applied, these emissions shall be conveyed through control equipment which has a particulate collection efficiency of not less than 85% by weight.

(d) Standards of Performance for New Grain Handling Facilities

(1) The owner or operator of a new grain handling facility located in the Minneapolis-St. Paul Air Quality Control Region or within a city with a population of 2500 or more shall apply induced draft to all sources of particulate emissions and shall convey these emissions through control equipment which has a particulate collection efficiency of not less than 99% by weight.

(2) The owner or operator of a new grain handling facility located outside the Minneapolis-St. Paul Air Quality Control Region but within a city with a population of less than 2500 shall apply induced draft to all sources of particulate emissions and shall convey these emissions through control equipment which has a particulate collection efficiency of not less than:

(aa) 99% by weight if the grain throughput of the facility is 2 million bushels or more; and

(bb) 85% by weight if the grain throughput is less than 2 million bushels.

(3) The owner or operator of a new grain handling facility located in a location other than one described in (d)(1) or (d)(2) shall:

(aa) Apply induced draft to all sources of particulate emissions and convey these emissions through control equipment which has a particulate collection efficiency of not less than 85% by weight if the grain throughput of the facility is 2 million bushels or more; and

(bb) Not be required to apply induced draft if the grain throughput of the facility is less than 2 million bushels, but if induced draft is applied, these emissions shall be conveyed through control equipment which has a particulate collection efficiency of not less than 85% by weight.

(e) Equivalent Performance Standard

The owner or operator of a grain handling facility who is required to convey particulate emissions through control equipment shall be deemed to be in compliance with the requirements of this regulation if the owner or operator of the facility does not cause or allow the emission of particulate matter from any control equipment to exceed the limits set forth in Table 1 & 2 in APC 5.

(f) Exceptions for Grain Dryers

The owner or operator of a grain dryer shall be deemed in compliance with the requirements of this regulation if:

(1) The grain dryer is located in a protected area away from residences and places frequented by the public and operation of the grain dryer does not create a public nuisance. If the Director determines that operation of the grain dryer does create a public nuisance, the owner or operator shall enclose the grain dryer in such a manner that the nuisance is eliminated.

(2) The perforations of a column dryer screen do not exceed 3/32 inches in diameter.

(3) The emissions from a rack dryer pass through a 50 mesh screen enclosure before discharge to the atmosphere.

(g) Nuisance

Notwithstanding any provisions in this regulation, no owner or operator of any grain handling facility shall operate or maintain the facility in such a manner as to create a public nuisance. If the Director determines that operation or maintenance of a grain handling facility does create a public nuisance, the Director may require the owner or operator to take such measures as are necessary to eliminate the nuisance.

APPROVED AS TO FORM AND LEGALITY
MAR 12 1976
WARREN SPANNAUS, ATTORNEY GENERAL
BY /s/ Michael B. Miller
SPECIAL ASSISTANT ATTORNEY GENERAL

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED
MAR 12 1976 - 4:25 pm
Joan Anderson Growe
Secretary of State

FILED
RICHARD L. BRUBACHER
Commissioner of Administration
MAR 12 1976
BY Eda Standemann
AUTH. SIGNATURE
4:30

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

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. §1857) 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

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

A F F I D A V I T

F. MARTIN OSBORN, being duly sworn on oath, deposes and says that:

1) He is a full-time employee of the Minnesota Pollution Control Agency of the State of Minnesota;

2) On the 12th day of March, 1975, he went to the Secretary of State's office for the State of Minnesota and requested a current list of all representatives of associations or other interested groups or individuals who had registered their names with the Secretary of State for the purpose of obtaining notices of public hearing relating to adoption of or amendments to Minnesota Pollution Control regulations;

3) On the 12th day of March, 1975, in response to said request, the Secretary of State provided him with such a list, copy of which is attached hereto and incorporated by reference.

F. Martin Osborn

F. MARTIN OSBORN

Subscribed and sworn to before me this 8th day of April, 1975, at Roseville, Minnesota.

Lila Holmdahl

NOTARY PUBLIC

LILA HOLMDAHL
Notary Public, Hennepin County, Minn.
My Commission Expires Oct. 31, 1976

PCA EXH 4

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

AFFIDAVIT OF SERVICE BY REGULAR MAIL

I, F. MARTIN OSBORN, being first duly sworn on oath, depose and say that:

1) I am a full-time employee of the Minnesota Pollution Control Agency.

2) On the 14th day of March, 1975, in the City of Roseville, County of Ramsey, I served the attached Notice of Hearing upon each of the individuals and organizations named in the attached list by depositing in the United States mail, with postage prepaid, envelopes containing a true and correct copy of said Notice of Hearing, addressed to those names and addresses on the attached list.

F. Martin Osborn
F. MARTIN OSBORN

Subscribed and sworn to before me this 8th day of April, 1975, at Roseville, Minnesota.

Lila Holmdahl
NOTARY PUBLIC

LILA HOLMDAHL
Notary Public, Hennepin County, Minn.
My Commission Expires Oct. 31, 1976

PCA EXH 3
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, 30, 31 and 32

CERTIFICATE

I hereby certify that the attached 4 (419 labels) sheets constitute the complete list of persons, associations, and other interested groups who as of 2:15 o'clock a.m., this 12th day of March, 1975, have requested pursuant to Minn. Stat. §15.0412 subd. 4 (1974), that their names be placed on file with the Secretary of State for the purpose of receiving notice of public hearing on proposed rules on the subject captioned above.

Joan Anderson Growe
SECRETARY OF STATE

JOAN GROWE

By Gail Dion

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 7

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 person, 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. The mass emission restrictions pertaining to existing incinerators is the same as the present regulations.

2. The visible emission restrictions pertaining to existing incinerators is the same as the present regulations as set forth in APC-11.

3. The mass emission restrictions pertaining to new incinerators is more restrictive than the present regulations.

4. New incinerators capable of meeting the proposed standards have been adequately demonstrated and these incinerators are available at a reasonable cost.

5. 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 incinerators of over 50 tons per day capacity. 40 C.F.R. Part 60 Subpart E. 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. 21 and various issues of the Federal Register promulgating the standards.)

6. 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 30th day of January, 1976.

MINNESOTA POLLUTION CONTROL AGENCY

Marion E. Watson

Marion Watson
Chairwoman

Peter L. Gove
Executive Director

NOW, THEREFORE, IT IS ORDERED that the amendment dated March 14, 1975, to this regulation identified as APC 7, entitled - Standards of Performance For Incinerators, is adopted this 2nd day of December, 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
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 7

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:

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, and 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 2nd day of December, 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 amendments to Minnesota Regulations APC 7, entitled Standards of Performance For Incinerators, dated March 14, 1975, and APC 13, entitled Standards of Performance For Storage Vessels For Petroleum Liquids, dated November 17, 1975, and Minnesota Regulations APC 22, entitled Standards of Performance For Portland Cement Plants, dated March 14, 1975, as amended, APC 23, entitled Standards of Performance For Asphalt Concrete Plants, dated March 14, 1975, as amended, and APC 28, entitled Standards of Performance For Sewage Sludge Incinerators, dated March 14, 1975, as amended, be and hereby are 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 2nd day of ~~December~~ January, 1976.

Peter L. Gove
Executive Director

Subscribed and sworn to before me this 2nd day of ~~December~~ January, 1976.

Marye E. Wyatt
Notary Public

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

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 RULEMAKING PROCEDURES
APC 7

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

Alan R. Mitchell
Special Assistant
Attorney General

Dated: January 30, 1976

Proposed

March 14, 1975

APC 7 STANDARDS OF PERFORMANCE FOR INCINERATORS

(a) Definitions

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

(1) "Incinerator" means any furnace or other device used in the process of burning solid waste for the purpose of reducing the volume of the waste by removing combustible matter.

(2) "Solid waste" means garbage, refuse, and other discarded solid materials, except animal waste used as fertilizer, including solid waste materials resulting from industrial, commercial and agricultural operations, and from community activities. Solid waste does not include earthen fill, boulders, rock and other materials normally handled in construction operations, solids or dissolved material in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial waste water effluents, dissolved materials in irrigation return flows, or other common water pollutants.

(3) "Burning capacity" means the manufacturer's or designer's maximum rate or such other rate that is considered good engineering practice and accepted by the Director.

(b) Standards of Performance for Existing Incinerators

(1) No owner or operator of an existing incinerator with a maximum refuse burning capacity of less than 200 pounds

per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.3 gr/dscf corrected to 12 percent CO_2.

(2) No owner or operator of an existing incinerator with a maximum refuse burning capacity of 200 to 2000 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.2 gr/dscf corrected to 12 percent CO_2.

(3) No owner or operator of an existing incinerator with a maximum refuse burning capacity of more than 2000 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.1 gr/dscf corrected to 12 percent CO_2.

(4) No owner or operator of an existing incinerator of any burning capacity shall cause or permit the emission of smoke or any other air contaminant which is:

(aa) Greater than 20 percent opacity,

(bb) Except that a maximum of 40 percent opacity shall be permissible for four (4) minutes in any 60 minute period.

(5) No owner or operator of an existing incinerator of any burning capacity shall burn type 2, 3, 4, 5, or 6 waste as classified by the Incinerator Institute of America unless said incinerator utilizes auxiliary fuel burners that maintain a minimum temperature of 1200°F for a minimum retention time of 0.3 second.

(c) Standards of Performance for New Incinerators

(1) No owner or operator of a new incinerator with a maximum refuse burning capacity of less than 200 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.2 gr/dscf corrected to 12 percent CO_2.

(2) No owner or operator of a new incinerator with a maximum refuse burning capacity of 200-2000 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.15 gr/dscf corrected to 12 percent CO_2.

(3) No owner or operator of a new incinerator with a maximum refuse burning capacity of more than 2000 but less than 4000 pounds per hour shall cause to be discharged into the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.1 gr/dscf corrected to 12 percent CO_2.

(4) No owner or operator of a new incinerator with a maximum refuse burning capacity of 4000 pounds per hour or more shall cause to be discharged in the atmosphere from the incinerator any gases which contain particulate matter in excess of 0.08 gr/dscf corrected to 12 percent CO_2.

(5) No owner or operator of a new incinerator of any burning capacity shall cause or permit the emission of smoke or any other contaminant which is:

(aa) Greater than 20 percent opacity.

(6) No owner or operator of a new incinerator of any burning capacity shall burn type 2, 3, 4, 5, or 6 waste as classified by the Incinerator Institute of America unless said incinerator utilizes auxiliary fuel burners that maintain a minimum temperature of 1200°F for a minimum retention time of 0.3 second.

(d) Monitoring of Operations

The owner or operator of any incinerator shall record the daily charging rate and hours of operation.

(e) Performance Test Methods

Unless another method is approved by the Agency, any owner or operator required to submit performance tests for an incinerator shall utilize the following methods (defined in APC 2):

(1) Method 5 for the concentration of particulate matter and the associated moisture content.

(2) Method 1 for sample and velocity traverses.

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

(4) Method 3 for gas analysis and calculation of excess air, using the integrated sample technique.

(5) Method 9 for visual determination of opacity.

(f) Performance Test Procedures

(1) For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 0.85 dscm (30.0 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Agency.

(2) If a wet scrubber is used, the gas analysis sample shall reflect flue gas conditions after the scrubber, allowing for carbon dioxide absorption by sampling the gas on the scrubber inlet and outlet sides according to the following procedure:

(aa) The outlet sampling site shall be the same as for the particulate matter measurement. The inlet site shall be selected according to Method 1, or as specified by the Agency.

(bb) Randomly select 9 sampling points within the crosssection at both the inlet and outlet sampling sites. Use the first set of three for the first run, the second set for the second fun, and the third set for the third run.

(cc) Simultaneously with each particulate matter run, extract and analyze for CO_2 an integrated gas sample according to Method 3, traversing the three sample points and sampling at each point for equal increments of time. Conduct the runs at both inlet and outlet sampling sites.

(dd) Measure the volumetric flow rate at the inlet during each particulate matter run according to Method 2, using the full number of traverse points. For the inlet make two full velocity traverses approximately one hour apart during each run and average the results. The outlet volumetric flow rate may be determined from the particulate matter run (Method 5).

(ee) Calculate the adjusted CO_2 percentage using the following equation:

$$(\%CO_2)adj=(\%CO_2)di(Qdi/Qdo)$$

where:

$(\%CO_2)_{adj}$ is the adjusted CO_2 percentage which removes the effect of CO_2 absorption and dilution air,

$(\%CO_2)_{di}$ is the percentage of CO_2 measured before the scrubber, dry basis,

Qdi is the volumetric flow rate before the scrubber average of two runs, dscf/min (using Method 2), and

Qdo is the volumetric flow rate after the scrubber, dscf/min (using Methods 2 and 5).

(3) The following procedures may be substituted for the procedures under subsections 2(cc), (dd), and (ee) above:

(aa) Simultaneously with each particulate matter run, extract and analyze for CO_2, O_2, and N_2 an integrated gas sample according to Method 3, traversing the three sample points and sampling for equal increments of time at each point. Conduct the runs at both the inlet and outlet sampling sites.

(bb) After completing the analysis of the gas sample, calculate the percentage of excess air (EA) for both the inlet and outlet sampling sites using the following equation:

$$\%EA = \frac{(\%O_2) - 0.5\,(\%CO)}{0.264(\%N_2) - (\%O_2) + 0.5\,(\%CO)} \times 100$$

where:

%EA = percent excess air

$\%O_2$ = percent oxygen by volume, dry basis

%N2 = percent nitrogen by volume, dry basis

%CO = percent carbon monoxide volume, dry basis

0.264 = ratio of oxygen to nitrogen in air by volume

(cc) Calculate the adjusted CO_2 percentage using the following equation:

$$(\%CO_2)adj = (\%CO_2)di \quad \frac{100+(\%EA)_i}{100+(\%EA)_o}$$

where:

$(\%CO_2)adj$ is the adjusted outlet CO_2 percentage,

$(\%CO_2)di$ is the percentage of CO_2 measured before the scrubber, dry basis,

$(\%EA)_i$ is the percentage of excess air at the inlet, and

$(\%EA)_o$ is the percentage of excess air at the outlet.

(4) Particulate matter emissions, expressed in g/dscm, shall be corrected to 12 percent CO_2 by using the following formula:

$$c_{12} = \frac{12c}{\%CO_2}$$

where:

c_{12} is the concentration of particulate matter corrected to 12 percent CO_2,

c is the concentration of particulate matter as measured by Method 5, and

$\%CO_2$ is the percentage of CO_2 as measured by Method 3, or when applicable, the adjusted outlet CO_2 percentage as determined by subsection (2) or (3) above.

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 8

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. The Minnesota Pollution Control Agency first adopted an open burning regulation on July 1, 1969. Since then, the

regulation, APC-8, has been amended on two occasions, the last amendment adopted on September 14, 1971.

2. Many of the provisions of the existing APC-8 are now out of date. For example, the time limits for governmental bodies to report to the Minnesota Pollution Control Agency on the availability of refuse collection service within their jurisdictions has long expired.

3. The most reasonable criterion for determining whether limited open burning should be permitted on residential premises is whether another means of disposal is available. The availability of refuse collection service and the locations of disposal facilities are the best means of determining whether open burning of refuse is necessary. These are better indicators than population density, which is the criterion used in the existing APC-8 for determining whether an open burning exemption should be granted to individual residences, are easier to apply, and aid in the enforcement of open burning restrictions. With the continued development and implementation of county solid waste management plans, the need for an open burning exemption, particularly within incorporated areas, should be eliminated. (April 17, 1975, Transcript at pp. 28-29.)

4. Even when an open burning exemption does apply, it is necessary to conduct the open burning in a manner which minimizes pollution. The legislature has indicated the kind of device which should be used for conducting open burning. Minn. Stat. §88.17 subd. 1 (1974).

5. Salvage operations by open burning are presently prohibited under APC-8. In order to improve the enforcement of this prohibition,

it is advisable to prohibit the possession and transportation of auto hulks and other scrap metals intentionally reduced by open burning. (April 17, 1975, Transcript at p. 29.) The disposal of abandoned motor vehicles and scrap metal is already regulated by Agency regulations, SW 75-79.

6. Although APC-8 presently allows open burning for certain purposes when a permit is obtained, experience with the regulation indicates that additional permitted fires are warranted. People in rural areas complained that they had disposal problems with material from the demolition of old buildings. Emissions from the burning of demolition material in rural areas should not create a significant pollution problem provided the burning is limited to only the wood products. (April 17, 1975, Transcript at p. 30.)

7. Dutch Elm disease and Oak Welt disease are spreading throughout Minnesota. Open burning of diseased trees throughout the State is warranted at the present time. In addition, the burning of nondiseased trees and brush whether accumulated by land development or right-of-way clearance or not should not create a pollution problem in out-state regions. (April 17, 1975, Transcript at p. 30 and Public Exhibit 19.)

8. Certain agricultural practices and forest and game management practices require the use of controlled, open burning. (Public Exhibit 19 and Statement of the Agricultural Extension Service of the University of Minnesota.)

9. The controlled burning of construction wastes utilizing an air curtain destructor or other approved method is an

acceptable means of disposal of these wastes. (Public Exhibit 21 at p. 55.)

10. Even when a fire is to be set for a purpose for which open burning is warranted, there are certain precautionary methods which must be followed. The permittee must be responsible for minimizing the pollution and other risks caused by his fire. In addition, open burning remains an undesirable form of waste disposal and if an alternative to burning is available, this alternative should be followed (April 17, 1975, Transcript at pp. 30-31, Public Exhibit 21 at pp. 55-56 and Statement of Minnesota Power & Light Company at pp. 12-14.

11. Open burning permit applications should be handled by qualified, knowledgeable people at the local level. This makes it convenient for citizens to obtain a permit when entitled to one and relieves the Minnesota Pollution Control Agency of handling permit applications from around the state. (April 17, 1975, Transcript at p. 31.)

12. The Minnesota Pollution Control Agency and the Minnesota Department of Natural Resources have entered into an agreement establishing a joint permit-issuing system. This will enable citizens to obtain one permit which will satisfy both state agency requirements. (April 17, 1975, Transcript at p. 31 and PCA Exhibit 8-A.)

Dated this 4th day of November 1975.

MINNESOTA POLLUTION CONTROL AGENCY

Peter L. Gove
Executive

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 8

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 this amendment dated October 27, 1975 to this regulation identified as APC 8, entitled Open Burning, with the addition of a definition for "diseased shade tree" 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 pursuant to authority vested in the Minnesota Pollution Control Agency by Minn. Stat. §116.07 subd. 4 (1974) the amendment to Minnesota Regulation APC 8, entitled Open Burning, dated October 27, 1975, be and it hereby is approved and adopted, with the following addition:
>
> A new definition is added to read as follows:
>
> > "Diseased shade tree" means any tree infected by Dutch elm disease or oak wilt disease or any tree constituting a hazard to a disease control program established by the Department of Agriculture pursuant to Minn. Stat. §18.023.
>
> BE IT FURTHER RESOLVED that 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

MARY E. WYATT
NOTARY PUBLIC — MINNESOTA
DAKOTA COUNTY

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 8

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 the amendments presented to the Board on December 23, 1975, to this regulation identified as APC 8, entitled Open Burning, as amended on November 4, 1975, are adopted this 23rd day of December, 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 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 23rd day of December, 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.

> Following discussion, Mr. Gadler moved and Mr. Genis seconded the motion adopting the suggested amendments in the language as distributed to the Board and in par. (c)(3) changing MPCA to Agency and the word "amended" to the word "adopted."

IN WITNESS WHEREOF, I have hereunto subscribed my name this 27th day of January, 1976.

Peter L. Gove
Executive Director

Subscribed and sworn to before me
this 27th day of January, 1976:

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 RULEMAKING PROCEDURES
APC 8

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

Alan R Mitchell

Alan R. Mitchell
Special Assistant
Attorney General

Dated: January 30, 1976

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 13

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. Presently Minnesota Regulation APC-13 requires control of hydrocarbon emissions from certain storage facilities containing petroleum distillates. The regulation went into effect July 7,

1969, and applies to facilities built after that date.

2. Emissions of hydrocarbons from storage facilities containing petroleum distillates are dependent on many factors including size, type, color and condition of the tank, type of control measures utilized, physical properties of the material stored, and climatic and meteorological (PCA Exhibit 16 at p. 33).

3. Floating roof construction is a common control method used to reduce hydrocarbon emissions from larger crude oil and gasoline storage tanks. Submerged till is a hydrocarbon emission control method applicable to gasoline storage tanks of greater than 2,000 gallons capacity. (PCA Regulation APC 13, dated July 7, 1969)

4. The economic feasibility of installation of floating roofs on new larger tanks has been demonstrated. (PCA Exhibit 16) New small gasoline storage tanks are easily fitted with submerged fill. (Written Statement 8 dated June 27, 1975 and submitted by Minnesota Petroleum Council) The cost of retrofitting control equipment on existing tanks is severalfold more expensive than the incremental cost incurred by the installation of original control equipment. (Written Statements 8 and 17 both dated and submitted by respectively by Minnesota Petroleum Council and Northwest Petroleum Assocation)

5. There is no available ambient air data for hydrocarbon concentrations in Minnesota for recent years. Excessions of ambient air oxidant standards have been measured at MPCA monitoring sites in 1975. (Testimony of Edward M. Wiik, June 10, 1975, transcript p. 20)

6. Petroleum tanks built in Minnesota have been required to have hydrocarbon emission control equipment since the Minnesota Pollution Control Agency Board adopted the present Regulation APC-13 in July 1969. (MPCA Regulation APC-13, dated July 7, 1969).

7. The U.S. Environmental Protection Agency has promulgated new source performance standards for petroleum storage vessels. These regulations specify conditions for which vapor control systems are required on petroleum storage vessels. (PCA Exhibit 18).

Dated this 30th day of January, 1976.

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 13

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 the amendment dated November 17, 1975, to this regulation identified as APC 13, entitled Standards of Performance For Storage Vessels For Petroleum Liquids, is adopted this 2nd day of December, 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, and 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 2nd day of December, 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 amendments to Minnesota Regulations APC 7, entitled Standards of Performance For Incinerators, dated March 14, 1975, and APC 13, entitled Standards of Performance For Storage Vessels For Petroleum Liquids, dated November 17, 1975, and Minnesota Regulations APC 22, entitled Standards of Performance For Portland Cement Plants, dated March 14, 1975, as amended, APC 23, entitled Standards of Performance For Asphalt Concrete Plants, dated March 14, 1975, as amended, and APC 28, entitled Standards of Performance For Sewage Sludge Incinerators, dated March 14, 1975, as amended, be and hereby are 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 27th day of ~~December~~ January, 1975.

Peter L. Gove
Executive Director

Subscribed and sworn to before me this 27th day of ~~December~~ January, 1975.

Mary E. Wyatt
Notary Public

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

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 RULEMAKING PROCEDURES
APC 13

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

Alan R. Mitchell

Alan R. Mitchell
Special Assistant
Attorney General

Dated: January 30, 1976

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 22

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 person, 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. The proposed regulation, APC-22, was promulgated to restirct particulate matter emissions from Portland cement plants.

The regulation sets forth mass emissions rates and visible emission standards for new and existing Portland cement plants.

2. For existing Portland cement plants the mass emission standards are based on the limitations as set forth in APC-5 and the visible emission standards are similar to the present restrictions as set forth in APC-11.

3. The Environmental Protection Agency has adopted New Source Performance Standards (NSPS) for Portland cement plants (Federal Register, Vol. 36, No. 247, December 23, 1971, pages 21876-21895). The initial NSPS set forth a 10% opacity on the emissions from kilns. This limitation was revised to 20% (Federal Register, Vol. 39, November 12, 1974, page 39872.

4. The Agency proposed a 10% opacity limitation on kiln emissions at their hearings but have revised this to 20% to correspond to the federal NSPS. Therefore, the particulate matter emission limitations (both mass emission rates and opacity requirements) for new Portland cement plants are the same as the NSPS as adopted by the Environmental Protection Agency.

5. Comment was given that opacity limitations should not apply to fugitive sources but only to emissions from a well defined source such as a stack. It is proposed that (e)(5), a performance test method for determining opacity, be added. This method pertains to stack emissions and not fugitive sources.

Dated this 30th day of January, 1976.

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 22

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 22, entitled Standards of Performance For Portland Cement Plants, dated March 14, 1975, as amended, is adopted this 2nd day of December, 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, and 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 2nd day of December, 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 amendments to Minnesota Regulations APC 7, entitled Standards of Performance For Incinerators, dated March 14, 1975, and APC 13, entitled Standards of Performance For Storage Vessels For Petroleum Liquids, dated November 17, 1975, and Minnesota Regulations APC 22, entitled Standards of Performance For Portland Cement Plants, dated March 14, 1975, as amended, APC 23, entitled Standards of Performance For Asphalt Concrete Plants, dated March 14, 1975, as amended, and APC 28, entitled Standards of Performance For Sewage Sludge Incinerators, dated March 14, 1975, as amended, be and hereby are 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 27th day of ~~December~~ January, 1976.

Peter L. Gove
Executive Director

Subscribed and sworn to before me this 27th day of ~~December~~ January, 1976.

Mary E. Wyatt
Notary Public

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

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 RULEMAKING PROCEDURES APC 22

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

Alan R. Mitchell

Alan R. Mitchell
Special Assistant
Attorney General

Dated: January 30, 1976

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 23

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. The proposed regulation, APC 23, was promulgated to restrict particulate matter emissions from asphalt concrete plants.

The regulation sets forth mass emission rates and visible emission rates and visible emission standards for new and existing asphalt concrete plants.

2. For existing asphalt concrete plants the mass emission standards are based on the limitations as set forth in APC-5 and the visible emission standards are similar to the present restrictions as set forth in APC-11.

3. 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 asphalt concrete plants. 40 C.F.R. Part 60 Subpart I. 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 16 and various issues of the Federal Register promulgating the standards.)

4. 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.)

5. 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 7th day of January, 1976.

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 23

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 23, entitled Standards of Performance For Asphalt Concrete Plants, dated March 14, 1975, as amended, is adopted this 2nd day of December, 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, and 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 2nd day of December, 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 amendments to Minnesota Regulations APC 7, entitled Standards of Performance For Incinerators, dated March 14, 1975, and APC 13, entitled Standards of Performance For Storage Vessels For Petroleum Liquids, dated November 17, 1975, and Minnesota Regulations APC 22, entitled Standards of Performance For Portland Cement Plants, dated March 14, 1975, as amended, APC 23, entitled Standards of Performance For Asphalt Concrete Plants, dated March 14, 1975, as amended, and APC 28, entitled Standards of Performance For Sewage Sludge Incinerators, dated March 14, 1975, as amended, be and hereby are 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 27th day of ~~December~~ January, 1975.

Peter L. Gove
Executive Director

Subscribed and sworn to before me this 27th day of ~~December~~ January, 1975.

Mary E. Wyatt
Notary Public

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

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 RULEMAKING PROCEDURES
APC 23

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

Alan R. Mitchell
Special Assistant
Attorney General

Dated: January 30, 1976

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 24

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. Continental Oil Company (Conoco), Koch Refining Company (Koch), and Northwestern Refining Company (Northwestern) are the

only petroleum refineries in the State of Minnesota. Conoco operates a petroleum refinery in Wrenshall, Carlton County, Minnesota. (April 23, 1975, Transcript at p. 41 and Public Exhibit 8 (Statement of Continental Oil Company).) Koch operates a petroleum refinery in Rosemount (Pine Bend), Dakota County, Minnesota with a capacity in excess of 100,000 barrels of crude oil per day. (April 17, 1975, Transcript at p. 79 and Public Exhibit 4 (Statement of Koch Refining Company).) Northwestern operates a petroleum refinery in St. Paul Park, Washington County, Minnesota with a capacity of 68,000 barrels per day. (April 18, 1975, Transcript at p. 4 and Public Exhibit 7 (Statement of Northwestern Refining Company).)

2. Fluid catalytic cracking units are the heart of petroleum refineries. These units convert heavy, high molecular weight fractions of crude oil into lighter, more valuable products such as gasoline. The catalyst for the cracking unit is regenerated in a catalyst regenerator. Essentially the particulate matter emitted to the atmosphere from the catalyst regenerator in a fluid catalytic cracking unit is catalyst dust which is entrained in the effluent gases from the regenerator. (PCA Exhibit 18 at p. 28) Currently Minn. Reg. APC 5 requires control of emissions of particulate matter from catalyst regenerators. The existing petroleum refineries in Minnesota do presently comply with this restriction. (April 17, 1975, Transcript at p. 52.) However, an emission standard relating particulate emissions to coke burn-off rate in the catalyst regenerator rather than to a process weight standard like the one in APC 5 is preferable since it is easier to determine compliance and

it is not dependent on the volume of gases discharged to the atmosphere, (PCA Exhibit 18, at p. 27) and therefore the standard in APC 5 is replaced by a comparable coke burn-off rate standard. Minn. Reg. APC 11 presently regulates the opacity of emissions from the catalyst regenerator, but this standard is changed to incorporate the opacity standard promulgated by the Environmental Protection Agency for new catalyst regenerators. (40 C.F.R. §60.102(a)(2) (1974)).

3. Often an incinerator-waste heat boiler is utilized to burn the catalyst regenerator exhaust gases. This is done primarily to convert the carbon monoxide in the exhaust gas to carbon dioxide. (PCA Exhibit 18, at p. 17.) In such event a carbon monoxide emission standard for the catalyst regenerator is not required. (PCA Exhibit 16 at p. 17.)

4. An incinerator-waste heat boiler is normally fired with refinery fuel gas. In the event that auxiliary liquid or solid fossil fuel is burned, the particulate matter from this auxiliary fuel must be abated, in addition to the control needed relative to the coke burn-off rate. (PCA Exhibit 16 at p. 17.) There presently is a restriction in APC 4 on the amount of particulate matter which can be emitted by a device burning liquid or solid fossil fuel.

5. Petroleum refineries utilize many process heaters, boilers, flares, and other types of indirect heating equipment which burn fuel gas and oil from the refinery. (PCA Exhibit 18 at p. 17.) The total potential uncontrolled emission of sulfur dioxide from such equipment at the three refineries in Minnesota is 500,000 tons per year. (April 17, 1975, Transcript at p. 52.)

6. Minn. Reg. APC 4 presently restricts the amount of

sulfur dioxide which can be emitted from indirect heating equipment burning fossil fuel. While APC 4 applies a sulfur dioxide emission limitation to each individual unit, limitation on each individual unit at a petroleum refinery does not appear to be warranted. Petroleum refineries have a large number of process heaters, boilers and flares which burn fuel gas and fuel oil generated at the refinery. Koch has approximately 40 such stacks (Public Exhibit 4 at p. 6). These fuels vary in sulfur content and in the degree of difficulty to reduce the sulfur levels. Fuel gas can be readily desulfurized while fuel oil sulfur content is dependent on the sulfur content of the crude oil. The sulfur recovery unit at Northwestern reduces the sulfur in the fuel gas so that the resultant sulfur dioxide emission is minimal. The fuel oil, however, may have a sulfur content which will result in a sulfur dioxide emission that exceeds the level in APC 4, 1.75 pounds of sulfur dioxide per million BTU heat input. (Public Exhibit 7 at p. 4). (April 17, 1975, Transcript, at p. 84, April 18, 1975 Transcript at p. 8 and April 23, 1975, Transcript at p. 43.) In order to meet a sulfur dioxide limitation for each individual process heater and other indirect heating equipment, the petroleum refineries in Minnesota would probably elect to blend the high sulfur fuel oil with low sulfur oil to meet the emission restriction. Koch reports that this would require as much as 88,000 gallons per day of low sulfur home heating oil and a blending cost to Koch of as much as $500,000 per year. (Public Exhibit 4 at pp. 5-6.)

7. Although averaging of emissions of sulfur dioxide from all indirect heating equipment burning fuel gas and fuel oil is

permissible, the ambient air quality standards for sulfur dioxide must be complied with. In addition, an upper limit on the amount of sulfur dioxide which any single unit of indirect heating equipment may emit is necessary to place some restriction on the highest sulfur content fuel which can be burned. A limit of 3.0 pounds of sulfur dioxide per million BTU heat input will allow fuel oil with a sulfur content of 2.65% by weight and a BTU content of 18,000 BTUs per pound to be burned, which is a blended oil of 40% vacuum bottoms and 60% clarified oil. (See letter dated December 5, 1975 from Koch to the Minnesota Pollution Control Agency.)

8. Minn. Reg. APC 4 presently restricts the amount of particulate matter which can be emitted from indirect heating equipment burning fossil fuel. It is reasonable to require the owners or operators of petroleum refineries to meet these restrictions for each process heater, boiler, flare, and other indirect heating equipment at the refinery.

9. Confusion could result if both Minn. Reg. APC 4 and APC 24 applied to facilities at petroleum refineries. The best manner in which to eliminate any possible confusion is to exclude petroleum refinery facilities from APC 4. (April 17, 1975, Transcript at pp. 86-87; April 18, 1975, Transcript at pp. 6-9; April 23, 1975, Transcript at p. 42; Public Exhibit 4; Public Exhibit 7; Public Exhibit 8; and Statement of Minnesota Petroleum Council dated June 27, 1975.)

10. Emissions of sulfur dioxide from sulfur recovery plants at petroleum refineries are not regulated at the present time in Minn. Reg. APC 24, except to the extent that control is

necessary to meet ambient air quality standards.

11. The state primary and secondary standard for sulfur dioxide is 0.02 ppm maximum annual arithmetic mean, 0.1 ppm maximum 24 hour concentration not to be exceeded more than once per year, and 0.25 ppm maximum 3 hours concentration not to be exceeded more than once per year. The 1973 annual sulfur dioxide arithmetic mean concentration in St. Paul Park, Minnesota, was 0.017 ppm at one station and 0.047 ppm at another, with numerous 24 hour and 3-hour violations. The 1973 arithmetic mean at Pine Bend, Minnesota, was 0.014 ppm, with several 3-hour violations. (PCA Exhibit 25, at pp. 60 and 69.) The 1974 arithmetic mean at St. Paul Park was 0.027 ppm at one station and 0.046 ppm at a second, with more than a thousand 3-hour and 24-hour violations. The 1974 arithmetic mean at Pine Bend was 0.026 ppm at one site and 0.013 ppm at a second, with several hundred 3-hour and 24-hour violations. (PCA Exhibit 26, data for sites 420, 430, and 431. See "Minnesota Air Quality 1974" at pp. 62 and 68.)

12. Koch is proceeding under a stipulation agreement to install desulfurization facilities which should be completed early in 1976. Northwestern is presently evaluating its abatement program.

13. The United States Environmental Protection Agency has promulgated a regulation requiring operators of existing affected facilities at petroleum refineries to install, calibrate, maintain, and operate a continuous monitoring system for measurement of the opacity of emissions from each catalyst regenerator for a fluid bed catalytic cracking unit of greater than 20,000 barrels per day of fresh feed capacity. (40 Fed. Reg. 46248, October 6, 1975.)

14. Pursuant to Section 111 of the Clean Air Act, the United States Environmental Protection Agency has promulgated standards of performance for certain new affected facilities, including new petroleum refineries. 40 C.F.R. Part 60 Subpart J. 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 16 at page 17, PCA Exhibit 17, PCA Exhibit 18, and various issues of the Federal Register promulgating the standards.)

15. 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.)

16. The United States Environmental Protection Agency has promulgated regulations for new affected facilities at petroleum refineries requiring continuous monitoring systems. The provisions of APC 24 for continuous monitoring systems on new affected facilities at petroleum refineries are identical to provisions of the federal regulation. (40 Fed. Reg. 46259, October 6, 1975.)

17. 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 3rd day of January, 1976.

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 24

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 24, entitled Standards of Performance for Petroleum Refineries, is adopted this 27th day of January 1976, 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 27th day of January, 1976; that a quorum was present at said meeting; that said resolution will be set forth in the minutes of said meeting and has not been rescinded or modified.

RESOLVED, that Minnesota Regulation APC 24, entitled Standards of Performance for Petroleum Refineries, dated January 16, 1976, be and 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 27th day of January, 1976.

Peter L. Gove
Executive Director

Subscribed and sworn to before me
this 27th day of January, 1976:

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 RULEMAKING PROCEDURES APC 24

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

Alan R. Mitchell
Special Assistant
Attorney General

Dated: January 30, 1976

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 28

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. The standards of performance for mass emission restrictions for existing sewage sludge incinerators is identical to the present restrictions as set forth in APC-7.

2. The proposed visible emission restrictions allowed a maximum of 20 percent opacity, except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60 minute period and that a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60 minute period.

3. The present visible emission restrictions for sewage sludge incinerators as set forth in APC-11 is a maximum shade or density of No. 1 on the Ringelmann Smoke Chart (equivalent to 20% opacity), except that a source may discharge an emission up to #2 on the Ringelmann Smoke Chart (equivalent to 40 percent opacity) for a period of or periods aggregating not more than 4 minutes in any 60 minutes.

4. Since the proposed visible emission restrictions were less restrictive than the existing restrictions, the proposed regulation has been revised to be the same as the existing regulation.

5. 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 sewage sludge incinerators 40 C.F.R. Part 60 Subpart O. 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 16 at p. 57 and various issues of the Federal Register promulgating the standards.)

6. 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.)

7. 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 30th day of January, 1976.

MINNESOTA POLLUTION CONTROL AGENCY

Marion W. 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 28

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 28, entitled Standards of Performance For Sewage Sludge Incinerators, dated March 14, 1975, as amended, is adopted this 2nd day of December, 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, and 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 2nd day of December, 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 amendments to Minnesota Regulations APC 7, entitled Standards of Performance For Incinerators, dated March 14, 1975, and APC 13, entitled Standards of Performance For Storage Vessels For Petroleum Liquids, dated November 17, 1975, and Minnesota Regulations APC 22, entitled Standards of Performance For Portland Cement Plants, dated March 14, 1975, as amended, APC 23, entitled Standards of Performance For Asphalt Concrete Plants, dated March 14, 1975, as amended, and APC 28, entitled Standards of Performance For Sewage Sludge Incinerators, dated March 14, 1975, as amended, be and hereby are 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 27th day of ~~December~~ January, 1976.

Peter L. Gove
Executive Director

Subscribed and sworn to before me this 27th day of ~~December~~ January, 1976:

Marye. Wyatt
Notary Public

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

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 RULEMAKING PROCEDURES APC 28

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

Alan R. Mitchell

Alan R. Mitchell
Special Assistant
Attorney General

Dated: January 30, 1976

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 29

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. Population of the area in which a grain handling facility is located is a reasonable criterion on which to base requirements for control equipment efficiency. During the 1974-1975 year whenever the primary and secondary particulate standards were exceeded a city with a population greater than 2500 was involved.

2. The state of Minnesota has over 850 grain handling facilities which range in size from small country elevators to large grain processing plants and terminal elevators located on waterways.

3. All thirty-nine representative grain handling facilities in the state, the majority of which are country elevators, surveyed by consultants employed by the Environmental Protection Agency were shown to be in violation of Minnesota Regulations APC-5 and APC-6. (Public Exhibit 29A)

4. The country elevators operate on an intermittent basis to handle the grain as it comes in from the farms. The emissions from these operations do not significantly affect the ambient air quality since most of the elevators are located in the cities with less than 2500 population and are located in Air Quality Control Regions with priority II and III classification for suspended particulate emissions.

5. In cities with less than 2500 population the relaxation of requirements for control equipment efficiency for new grain handling facilities would not significantly affect the ambient air quality. However, grain dust nuisance may become a problem in some grain handling facilities, and control therefor should be provided.

6. In the Minneapolis - St. Paul Air Quality Control Region the maximum control efficiency is necessary regardless of the size of the grain handling facility because of the existing ambient

air quality levels of suspended particulate matter.

7. Control equipment is available which will collect over 99% of the particulate matter in a gas stream. This equipment is economically feasible for the large grain handling facilities and most of the larger country elevators.

Dated this 23rd day of December, 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 29

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 29, entitled Standards of Performance for Grain Handling Facilities, is adopted this 23 day of December, 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 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 has not been rescinded or modified, and the minutes indicate that the regulation was adopted:

> RESOLVED, that Minnesota Regulation APC 29, entitled Standards of Performance for Grain Handling Facilities, 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 21st day of January, 1976.

Peter L. Gove
Executive Director

Subscribed and sworn to before me
this 21st day of January, 1976:

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 RULEMAKING PROCEDURES
APC 29

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

Alan R. Mitchell

Alan R. Mitchell
Special Assistant
Attorney General

Dated: January 30, 1976