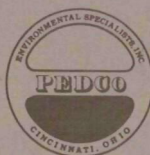
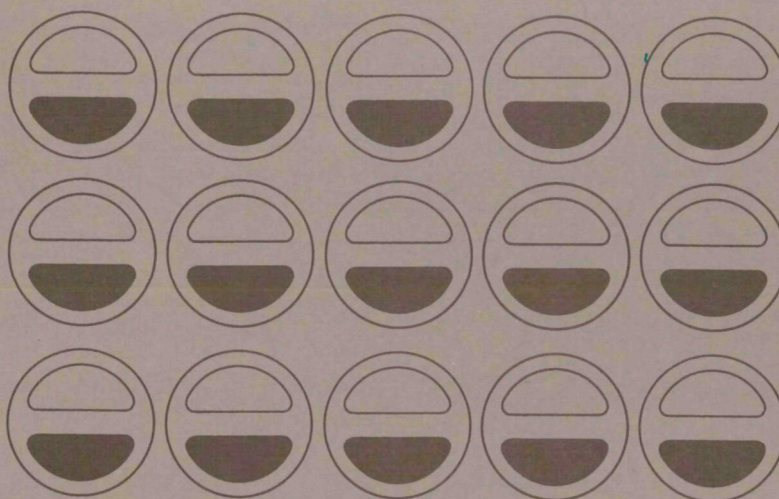
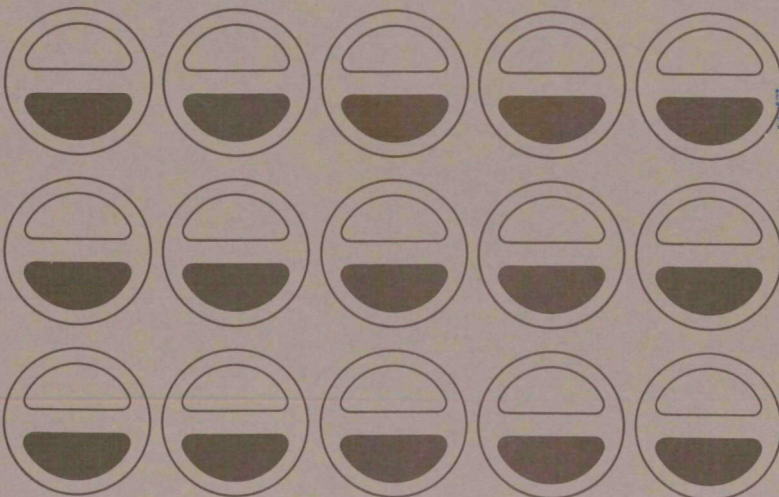


COMPLIANCE EVALUATION PROCEDURE  
FOR STATIONARY SOURCES  
° OHIO AND ILLINOIS °



**PEDCO ENVIRONMENTAL**



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CINCINNATI, OHIO 45246  
513/771-4330

COMPLIANCE EVALUATION PROCEDURE  
FOR STATIONARY SOURCES  
° OHIO AND ILLINOIS °

Contract Number 68-02-1375  
Task Order Number 11

Prepared by  
PEDCo-Environmental Specialists, Inc.  
Suite 13, Atkinson Square  
Cincinnati, Ohio 45246

EPA Project Officer: Lance Vinson

Prepared for  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
Region V  
Enforcement Division  
Chicago, Illinois 60606

August, 1974



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## 1.0 INTRODUCTION

The purpose of this report is to ensure that uniformity is maintained in the evaluation of the compliance status of selected Ohio and Illinois stationary sources. The procedure for determining the compliance status for these facilities is described in detail in the following sections. These sections are to be followed sequentially for each group of facility files which is processed.

## 2.0 PROCEDURE

### 2.1 MASTER SOURCE LIST

Initially, each facility to be studied is assigned a sequential number (1,2,3...) and then entered on a master listing (see Form No. 1, Appendix A). Note that the columns to the right of the name designate progressive milestones in the compliance assessment process. The pertinent dates of these milestones are to be entered as they occur, to allow for a current, individual and overall accounting of the sources.

### 2.2 CHECK FOR ADEQUACY OF INFORMATION

The available information for each source, from EPA form 158-R75 and other pertinent references, is next assessed for adequacy in determining the compliance status (all source information must be checked prior to actual compliance status determination) for each emission point of the facility. This preliminary information check reduces the time necessary for the acquisition of additional information. The missing information is then delineated (see Form No. 2, Appendix A) for subsequent data acquisition if such is required from a facility.

Although not all of the data required by EPA form 158-R75 is necessary for compliance status determination,

all missing information should be requested in order to establish a complete information bank on each source. The completed Form No. 2 for each facility examined is submitted to EPA and can be included with a letter requesting the required information from the source. Once completed, Form No. 2 is then placed in the specific facility file.

As the requests for additional information are made, each facility file is categorized as either: (1) adequate for partial or complete compliance status determination (some or all emission points can be accurately assessed without additional information); or (2) inadequate for even partial compliance determination. It follows that category 2 sources become category 1 sources upon receipt of the necessary information.

## 2.3 COMPLIANCE STATUS DETERMINATION

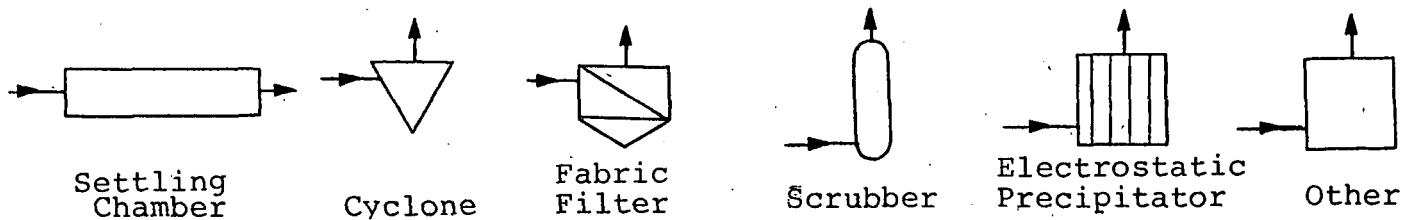
The determination of the compliance status of an individual facility encompasses a series of related actions. All pertinent source-related information plus available or calculated data must be summarized and tabulated (see Form No. 3, Appendix A). Additionally, all work documents relative to a specific facility must be retained in the facility file folder.

### 2.3.1 Flow Diagram

The first step in completing the compliance status evaluation is the preparation of a block flow diagram which illustrates all the processes and emission points at the

facility. Low contrast graph paper is best suited for this flow diagram, since it allows for quick free-hand drawing.

Control devices are shown as follows:



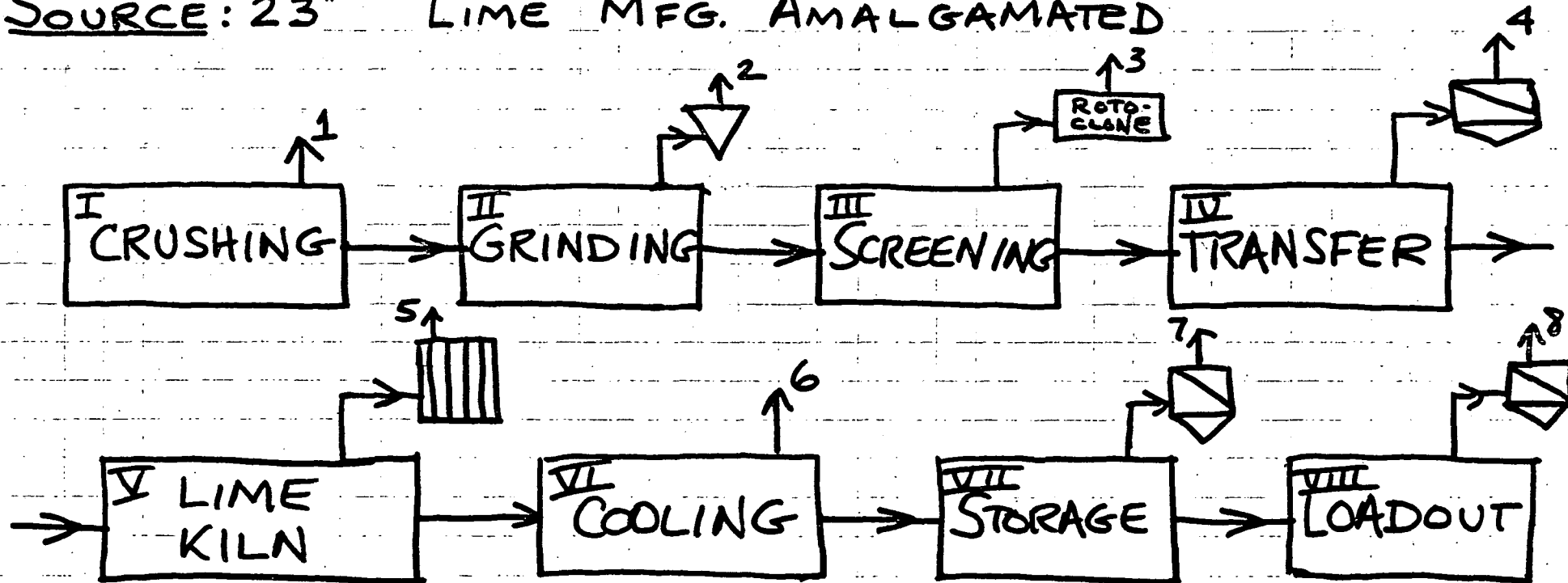
All sources are identified using the source code of EPA form 158-R75. All emission points are identified by a number assigned by the person conducting the compliance check so that each source-emission point I.D. is a unique number. An example flow diagram is shown in Figure 1.

#### 2.3.2 Determination of Actual Emission Rate

The "Estimate of Pollutant Emissions" portion of Section VI of EPA Form 158-R75 (see Appendix A) is intended to reflect the specific emission data for each source by pollutant type and rate (lbs/hr and tons/yr). The basis for estimation of the pollutant and emission rates in this section are to be indicated (footnote e) by the facility; however, in some cases the basis for estimation won't be indicated. Regardless, the pollutants and emission rates given should be checked for credibility (even if the results are from stack tests) by consulting such references as EPA Pub. AP-42<sup>1</sup> or EPA Pub. AP-40<sup>2</sup>. These references contain pollutant emission factors and typical control efficiencies for a wide variety of sources and control



SOURCE: 23\* LIME MFG. AMALGAMATED



\* Note - use of low contrast graph paper.

Figure 1. EXAMPLE PROCESS FLOW SHEET



devices. The calculated emission rate with its pertinent emission factor references (e.g., AP-42) and calculations should be entered in the space indicated on Form No. 3. If the calculated emission rate differs significantly from the rate given on the form, this emission source should be earmarked by appropriate comments on Form No. 3 to insure that this difference is investigated during subsequent plant contact and/or visit.

If the emission rate is not given by the plant, estimate the emissions by using AP-42<sup>1</sup>, material balance calculations, or use of similar process data.

Both senior EPA R/O staff and PEDCo engineers experienced in a variety of process operations should be utilized to advise on situations where the above references are not adequate for a clear-cut decision. In all cases, working calculations must be performed neatly so that they can be checked. All work sheets must be saved and included in the facility file.

### 2.3.3 Determination of Allowable Emission Rates

Allowable emission rates are determined by applying the pertinent air pollution control regulation of Ohio or Illinois. The sections of these regulations required for assessing compliance status are contained in Appendix B. Calculations and citation of the applicable regulation should be entered in the space as indicated on Form No. 3. Either knowledgeable EPA R/O or State personnel will be contacted to clarify any interpretation of the regulation which proves necessary. A consistent interpretation of regulations is most important when the regulation is not clear.

Application of the opacity regulation for compliance determination cannot of course be accomplished without on-site observation during plant inspection. When it is suspected that the opacity of a specific exhaust exceeds the applicable regulation,<sup>3</sup> that emission source should be designated for further investigation<sup>4</sup> by appropriate comment on Form No. 3.

#### 2.3.4 Compliance - Noncompliance Alternatives

An emission source is presumed to be in compliance if its allowable emission rate and exhaust opacity exceed its actual emission rate and actual opacity, respectively. Conversely, when the actual emission rate and opacity exceed the allowable, the source is out of compliance.

If a facility has all its sources in compliance (no suspected opacity violations) its Compliance Status Summary Form plus the entire facility information file are submitted to the Project Officer (EPA) or Project Manager (PEDCo) for review. Facilities with one or more emission sources which comply quantitatively, but are suspected of opacity violation, are to be submitted apart from totally complying facilities so that investigation can proceed without delay.

2.3.4.1 Noncomplying Facilities - Preparation of Air Enforcement Checklist - An Air Enforcement Checklist (see Appendix C) is filled out for each facility with one or more emission sources not in compliance. A cover sheet is prepared for each of these companies. The information contained on this sheet includes sources in compliance, sources out of compliance, and any additional comments. Example information entered on the AEC is as follows:

Part I, Section II, A - The applicable regulations are listed here.

Part I, Section III - Total existing emissions from all sources out of compliance and total emissions from these sources after compliance is achieved are entered here.

Part II, Section I - The specific source within the plant is identified. Part II and Part III are filled out for every source that is out of compliance within the cited facility.

Part II, Section II - The requirements violated by the source are entered here.

Part II, Section III, A - The annual emissions are entered here, both without controls and with existing controls. If there are no controls, "No Controls" will be entered. The allowed emissions will be entered, based on the required control efficiency.

Part III, Section I, A - The type of control necessary to bring the source into compliance is shown here. Selection of this device is made by consulting AP-42, AP-40, etc., and by calculating the additional control efficiency required<sup>5</sup> - enter the figure in its column of Form 2.

Part III, Section I, B - The control plan and schedule necessary to bring the source into compliance is given here. Generalized compliance schedules can be determined from EPA Publication 340/1-74-001-a<sup>6</sup>. When a source is already under a compliance plan, its schedule should be compared with an appropriate schedule from this publication to ascertain its

attainability. Milestones of the schedule should also be checked with required Ohio or Illinois compliance deadline.

Part III, Section II - The estimated range of installed cost should be included, if a basis for such an estimate is available. Sources which can be utilized for determination of capital and operating costs include:

Grain Industry	MRI	Contract 68-02-0213 December 1973
Sulfuric Acid	Chemico	March 1970
Pulp and Paper	Environmental Engineering	Contract CPA 22-69-18 March 1970
Iron and Steel	Battelle	Contract PH 22-68-65 May 1969
Cost Study for Selected Industries	RTI & PEDCo	Contract CPA 22-69-79 February 1970
Iron Foundries	A.T. Kearney	Contract CPA-22-69-106 1970
Control Costs for Selected Industries	IGCI	1974
Capital and Oper- ating Costs of Pollution Control Vol. 1 and 2	EPA	EPA-R5-73-023 a & b July 1973

## REFERENCES AND FOOTNOTES

1. Compilation of Air Pollutant Emission Factors, 2nd edition, U.S. Environmental Protection Agency, April 1973.
2. Air Pollution Engineering Manual, 2nd edition, U.S. Environmental Protection Agency, May 1973.
3. For example, a granular material handling system controlled by a cyclone might comply with quantitative regulations, but because of the fine particles involved might not comply with the applicable opacity regulation.
4. Through plant visit or contact with State or local APC personnel familiar with the source.
5. Control Efficiency Required (%) =  
$$\frac{\text{Actual emission rate} - \text{Allowable emission rate}}{\text{Actual emission rate}} \times 100$$
6. Technical Guide for Review and Evaluation of Compliance Schedules for Air Pollution Sources, prepared for EPA, Contract No. 68-02-0607, Task No. 5, by PEDCo-Environmental Specialists, July 1973.

APPENDIX A  
PROJECT FORMS

REPORTING DATE: \_\_\_\_\_

EPA CONTRACT NO. 68-02-1375  
CONTRACTOR PEDCo-Environmental Specialists, Inc.  
TASK NO. 11

[illegible]



## Form No. 2 - Missing Information Summary

## Missing Information Summary

## Compliance Evaluation For

Facility Name

No.

No.

Date: Request

# Receipt

[illegible]

1. From EPA Form 158-R75

Name of Reviewer

## Form No. 3 - Compliance Status Summary with Substantiating Calculations and Regulation Citations

Facility: Name \_\_\_\_\_ No. \_\_\_\_\_ State: \_\_\_\_\_ Date: \_\_\_\_\_

[illegible]

1) From Form 158-R75

3) TPY (tons per yr)

4) Applicable Regulation 5) Percent

### 5) Percent Control Required

Contract No. 68-02-1375

2) P-Particulate; S ( $\text{SO}_2$ ); HC (hydrocarbons); N ( $\text{NO}_x$ ); CO

Control Required Task Order No. 11

Reviewer

Date Report Submitted: \_\_\_\_\_

ENVIRONMENTAL PROTECTION AGENCY  
AIR POLLUTANT EMISSIONS REPORT  
SECTION I - GENERAL INFORMATION

FORM APPROVED  
OMB NUMBER 158-R75

For Official Use Only:

Date Sent: \_\_\_\_\_

Date Returned: \_\_\_\_\_

UTM Grid Coordinates: \_\_\_\_\_

SIC No.: \_\_\_\_\_

Source ID: \_\_\_\_\_

Plant, institution, or establishment name: \_\_\_\_\_

Plant, institution, or establishment address: \_\_\_\_\_  
(Street or Box Number) (City) (State) (Zip)

Person to contact regarding this report: \_\_\_\_\_ Title: \_\_\_\_\_ Telephone: \_\_\_\_\_

Mailing address: \_\_\_\_\_  
(Street or Box Number) (City) (State) (Zip)

Approximate number of employees at plant, institution, or establishment location: ☐ Less than 100 ☐ 100 or more

Elevation of plant, institution, or establishment in relationship to mean sea level: \_\_\_\_\_ feet above mean sea level, \_\_\_\_\_ feet below mean sea level

Information is representative of calendar year: \_\_\_\_\_

Land area at plant location: \_\_\_\_\_ acres. Enclose a sketch of layout if there is more than one building.

Plant location: (give nearest cross streets, describe by landmarks or enclose a map, engineering drawing, or sketch) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

☐ Air pollutants of the type indicated in the instructions for the completion of this report, i.e., \_\_\_\_\_  
are not emitted at this plant, institution or establishment. Therefore, no other Sections of the report need be completed.

\_\_\_\_\_  
(Signed) \_\_\_\_\_ (Title)

Please return all sections of this report to: \_\_\_\_\_

Date Report Submitted: \_\_\_\_\_

ENVIRONMENTAL PROTECTION AGENCY  
AIR POLLUTANT EMISSIONS REPORT

FORM APPROVED  
OMB NUMBER 158-R75

SECTION II - FUEL COMBUSTION FOR GENERATION OF HEAT, STEAM, AND POWER

Plant, institution, or establishment name: \_\_\_\_\_

Normal operating schedule for fuel use: \_\_\_\_\_ Hours per day \_\_\_\_\_ Days per week \_\_\_\_\_ Weeks per year \_\_\_\_\_ Hours per year.

Dates of annually occurring shutdowns of operations: \_\_\_\_\_ Additional operating information enclosed ☐.

Source <sup>a,c</sup> Code	Number of Combustion Sources <sup>b,e</sup> (Boilers)	Size of Unit (Input) <sup>c,e</sup> 10 <sup>6</sup> BTU/hr.	Type of Unit <sup>d,e</sup>	Installation Date <sup>e</sup>	Percent Excess Air Used In Combustion (Design) <sup>e</sup>	Power Output Megawatts <sup>e,f</sup>

- List a separate code number to represent each source (e.g., II-a, II-b, II-c, etc.), then enter the same code number and the required data on the continuation of this Section on Page 3, and in Sections V and VI.
- Multiple sources may be grouped if units are similar in size and type, burn the same fuel, or are vented to the same stack.
- Nameplate data are sufficient (give rated or maximum capacity, whichever is greater).
- Hand-fired, underfeed, overfeed, traveling-grate or spreader stoker; cyclone furnace; pulverized, wet or dry bottom with or without fly ash reinjection; rotary or gun type oil burner; etc.
- List separately future equipment and expected date of installation.
- Power generation only.

NOTE: Please read reverse side of  
this page. Use additional sheets  
if necessary. Retain last copy.

Date Report Submitted: \_\_\_\_\_

# ENVIRONMENTAL PROTECTION AGENCY AIR POLLUTANT EMISSIONS REPORT

FORM APPROVED  
OMB NUMBER 159-R75

## SECTION II - FUEL COMBUSTION FOR GENERATION OF HEAT, STEAM, AND POWER (continued)

Plant, institution, or establishment name: \_\_\_\_\_

Source Codes <sup>a</sup>	Type of Fuel <sup>b</sup>	Annual Consumption <sup>c</sup>					Hourly Consumption <sup>d</sup>		Percent Used for Space Heat	Heat Content BTU/Quan./	Percent Sulfur <sup>e,f</sup>	Percent Ash (Solid Fuel Only) <sup>e,f</sup>	Delivered Cost of Fuel \$/Quantity	Future Uses
		Quantity <sup>a</sup>	Percent Distribution by Season				Maximum	Average						
			Spring March/ May	Summer June/ Aug.	Fall Sept./ Nov.	Winter Dec./ Febr.								

- List code numbers corresponding to each source referred to on page 2, (e.g., II-a, II-b, II-c, etc.), then enter required data on this page, and for the same code number sources in Sections V and VI.
- Coke, bituminous coal, anthracite coal, lignite; No. 1, 2, 4, 5 and 6 fuel oil; natural gas; LPG; refinery or coke oven gas; residual coke; wood; bark; sludge; etc. (Note: Indicate if two or more fuels are burned in the same boiler and provide all data pertinent to each fuel type.)
- Fuel data are to be reported on an "as burned" basis.
- Solid fuel, tons; liquid fuel, gallons; gaseous fuel, 1000 cubic feet.
- ~~If unknown, please give name and address of fuel supplier.~~
- Sulfur and ash content for each fuel should be a weighted average.
- Estimated percent increase or decrease in fuel usage (by fuel type) per year for the five years after the calendar year for which this report is completed. If increase is due to new equipment, please list this equipment separately on page 2 and the expected fuel use on this page.

NOTE: Please read reverse side of this page. Use additional sheets if necessary. Retain last copy.

Date Report Submitted: \_\_\_\_\_

# ENVIRONMENTAL PROTECTION AGENCY AIR POLLUTANT EMISSIONS REPORT

FORM APPROVED  
OMB NUMBER 158-R75

## SECTION III - COMBUSTIBLE SOLID AND LIQUID WASTES DISPOSAL

Plant, institution, or establishment name: \_\_\_\_\_

Combustible solid and liquid wastes disposed of ☐ on site, ☐ off site, ☐ both on and off site. If off site, location of disposal site and/or name of hauler: \_\_\_\_\_  
\_\_\_\_\_ (If disposal of solid and liquid wastes is partly or wholly on site, complete remainder of this page and Sections IV, V and VI; otherwise, skip to Section IV.)

Normal on-site combustion operating schedule: \_\_\_\_\_ Hours per day, \_\_\_\_\_ Days per week, \_\_\_\_\_ Weeks per year, \_\_\_\_\_ Hours per year.

Seasonal and/or peak operation period: (Specify) \_\_\_\_\_

Dates of annually occurring shutdowns of operations: \_\_\_\_\_ Additional operating information enclosed ☐.

Source Code <sup>a</sup>	Waste Material			Method of Disposal <sup>d</sup>	Installation Date	Hourly Burning Rate, lbs.		Auxiliary Fuel Used <sup>e</sup>	Percent Excess Air Used in Combustion (Design)	Future Disposal <sup>f</sup>
	Type <sup>b</sup>	Amount Per Year	Percent Combustible			Average	Maximum			
										/

- List a separate code number to represent each source (e.g., III-a, III-b, III-c, etc.), then enter required data on this page and for the same code number sources in Section V and VI.
- Rubbish, garbage, mixed garbage and rubbish, waste paper, wood chips or sawdust, etc.
- Tons, pounds, or gallons/year.
- Open burning dump; incinerator, single chamber; etc. (See instructions for examples and use appropriate identification numbers; other non-listed methods, specify.)
- Indicate whether auxiliary fuel is used in incinerators and pit burning, and the amount.
- Estimated increase or decrease in combustible solid and liquid wastes disposal rate for the five years after the calendar year for which this report is completed. If increase is due to new equipment, please list this equipment separately.

NOTE: Please read reverse side of this page. Use additional sheets if necessary. Retain last copy.

Date Report Submitted: \_\_\_\_\_

# ENVIRONMENTAL PROTECTION AGENCY AIR POLLUTANT EMISSIONS REPORT

FORM APPROVED  
OMB NUMBER 158-R75

## SECTION IV - PROCESS/OPERATIONS EMISSIONS

Plant, institution, or establishment name: \_\_\_\_\_

Normal operating schedule: \_\_\_\_\_ Hours per day \_\_\_\_\_ Days per week \_\_\_\_\_ Weeks per year \_\_\_\_\_ Hours per year.

Seasonal and/or peak operation period: November - January

Dates of annually occurring shutdowns of operations: \_\_\_\_\_ Additional operating information enclosed ☐.

Source Code <sup>a</sup>	Processes or Operations Releasing Pollutants to the Atmos- phere <sup>b,c,d</sup>	Date In- stallation Went on Line	Raw Material Used for Processes or Operations				Products of Processes or Operations				Intermittent Operation Only: Average Hours/week <sup>h</sup>	Future: In- crease or Decrease in Process Rate
			Type	Quantity			Type	Annual Average <sup>f</sup>	Quantity			
				Annual Average <sup>f</sup>	Hourly Process Rate, <sup>tons</sup> <del>lbs</del>				Hourly Process Rate, <sup>tons</sup> <del>lbs</del>			
					Design	Maximum				Design		

- List a separate code number to represent each source (e.g., IV-a, IV-b, IV-c, etc.) then enter required data on this page and for the same code number sources in Sections V and VI.
- Multiple sources may be grouped if similar in size and type.
- Sulfuric acid-contact; aluminum smelting-crucible furnace; cement manufacturing-dry process; etc. (See instruction for examples and use appropriate identification numbers; other non-listed processes and operations, specify.)
- The pollutants to be covered in this report are listed in the accompanying instructions.
- Sulfur burned; pig, foundry returns, or scrap aluminum melted; limestone, cement rock, clay, iron ore used; etc.
- Pounds, tons, gallons, barrels, etc.
- Sulfuric acid produced; aluminum ingots produced; cement produced; etc.
- For intermittent processes, indicate average number of hours per week of operation so that estimates of yearly emissions may be obtained.
- Estimated percent increase or decrease in process rate on a total plant basis for the five years after the calendar year for which this report is completed. If increase is due to new equipment, please list this equipment separately.

NOTE: Please read reverse side of this page. Use additional sheets if necessary. Retain last copy.



Date Report Submitted: \_\_\_\_\_

ENVIRONMENTAL PROTECTION AGENCY  
AIR POLLUTANT EMISSIONS REPORT  
SECTION V - AIR CLEANING EQUIPMENT

FORM APPROVED  
OMB NUMBER 158-R75

Plant, institution, or establishment name: \_\_\_\_\_

Source Code <sup>a</sup>	Type of Air Cleaning Equipment <sup>b,c</sup>	Installation Date <sup>c</sup>	Pollutant Removed <sup>c,d</sup>	Efficiency <sup>e</sup>		Inlet Gas Temperature, °F	Inlet Gas Flow Rate, <sup>f</sup> CFM	Exit Gas Pressure, PSI
				Design Percent	Operating Percent			

- a. List code numbers corresponding to each emissions source reported in Sections II, III, and IV.
- b. Wet scrubber, electrostatic precipitator, fabric filter, etc. ~~(See instructions for examples and use appropriate identification numbers; other non-listed type, specify.)~~
- c. Please list future equipment separately.
- d. The pollutants to be covered in this survey are specified in the accompanying instructions.
- e. Give efficiency in terms of pollutant removed.
- f. At actual flow conditions.

\* Plenum drop box + secondary cyclone  
typical emission from cooler drop box = 250 lb./hr.  
estimated cyclone off = 97.0

NOTE: Please read reverse side of  
this page. Use additional sheets  
if necessary. Retain last copy.

Date Report Submitted: \_\_\_\_\_

**ENVIRONMENTAL PROTECTION AGENCY  
AIR POLLUTANT EMISSIONS REPORT**

FORM APPROVED  
OMB NUMBER 158-R73

**SECTION VI - STACK AND POLLUTANT EMISSIONS DATA**

Plant, institution, or establishment name: \_\_\_\_\_

STACK DATA							ESTIMATE OF POLLUTANT EMISSIONS <sup>c</sup>			
Source Code <sup>a</sup>	Height Above Grade ft.	Inside Diameter at Top, ft.	Exit Gas Velocity, <sup>b</sup> ft./sec.	Exit Gas Temperature, <sup>b</sup> °F	Exit Gas Flow Rate, CFM <sup>c</sup>		Pollutant <sup>d</sup>	Quantity		
					Average	Maximum		Tons Per Year	Lbs. Per Hour	
									Average	Maximum

- a. List code numbers corresponding to each emissions source reported in Sections II, III, and IV.
- b. Values should be representative of average flow conditions for hours of operation.
- c. At actual flow conditions.
- d. The pollutants to be covered in this survey are specified in the accompanying instructions.
- e. Give stack test data if available (indicate stack sampling method used), otherwise, specify basis used. If unknown, please do not complete these columns.

NOTE: Please read reverse side of this page. Use additional sheets if necessary. Retain last copy.

APPENDIX B  
OHIO AND ILLINOIS REGULATIONS

## OHIO REGULATIONS





are employed or applied, and where any portion or portions of said series of articles, machines, equipment, or other contrivances involves operations described in subsection (G) (1) of this regulation, said portions shall be collectively subject to compliance with subsection (G) (1) of this regulation.

(4) Emissions of organic materials to the atmosphere from the cleanup with photochemically reactive materials of any article, machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), or (G) (3) of this regulation, shall be included with the other emissions of organic materials from that article, machine, equipment, or other contrivance for determining compliance with this regulation.

(5) Emissions of organic materials to the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), or (G) (3) of this regulation, shall be included with other emissions of organic materials from that article, machine, equipment, or other contrivance, for determining compliance with this regulation.

(6) Emissions of organic materials into the atmosphere required to be controlled by subsection (G) (1), (G) (2), or (G) (3) of this regulation, shall be reduced by:

(a) Incineration, provided that 90 percent or more of the carbon in the organic material being incinerated is oxidized to carbon dioxide, or

(b) Adsorption, or

(c) Processing in a manner determined by the Board to be not less effective than (a) or (b) above.

(7) A person incinerating, adsorbing, or otherwise processing liquid organic materials pursuant to this rule shall provide, properly install, and maintain in calibration, in good working order and in operation, devices as specified in the authority to construct or the permit to operate, or as specified by the Board, for indicating temperatures, pressures, rates of flow, or other operating conditions necessary to determine the degree and effectiveness of air pollution control.

(8) Any person using liquid organic materials or substances containing liquid organic materials shall supply the Board, upon request and in the manner and form prescribed by the Board, written evidence of the chemical composition, physical properties, and amount consumed for each organic solvent used.

(9) The provisions of section (G) of this regulation shall not apply to:

(a) The use of equipment for which other requirements are specified by sections (D), (E), and (F) of this regulation, or which are exempt from air pollution control requirements by said sections.

(b) The spraying or other employment of insecticides, pesticides, or herbicides.

(c) The use of any material, in any article,

machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), (G) (3), or (G) (4) of this regulation, if:

(i) the volatile content of such material consists only of water and liquid organic material, and

(ii) the liquid organic material comprises not more than 20 percent of said volatile content, and

(iii) the volatile content is not a photochemically reactive material.

(d) The use of any material, in any article, machine, equipment or other contrivance described in subsection (G) (1), (G) (2), (G) (3), or (G) (4) of this regulation, if:

(i) the volatile content of such material does not exceed 20 percent by volume of said material, and

(ii) the volatile content is not a photochemically reactive material.

(e) The use, in any article, machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), (G) (3), or (G) (4), of liquid organic materials which exhibit a boiling point higher than 220° F at 0.5 millimeter mercury absolute pressure, or having an equivalent vapor pressure, unless such liquid organic material is exposed to temperatures exceeding 220° F.

(f) The use of any material, in any article, machine, equipment or other contrivance described in subsection (G) (1), (G) (2), (G) (3), or (G) (4), if it can be demonstrated to the Board's satisfaction that the emissions of organic materials into the atmosphere from such article, machine, equipment or other contrivance are not photochemically reactive.

(H) Architectural coatings.

(1) A person shall not sell or offer for sale for use in containers of greater than 1-gallon capacity, any architectural coating containing a photochemically reactive material.

(2) A person shall not employ, apply, evaporate, or dry any architectural coating, purchased in containers of greater than 1-gallon capacity, containing a photochemically reactive material.

(3) A person shall not thin or dilute for application any architectural coating with a photochemically reactive material.

(I) Disposal and evaporation of solvents.

A person shall not, during any one day, dispose of a total of more than 1-1/2 gallons of any volatile photochemically reactive material, or dispose of any substance containing more than 1-1/2 gallons of any volatile, photochemically reactive material, by any means which will permit the evaporation of such volatile photochemically reactive material into the atmosphere.

(J) Waste gas disposal.

(1) No person shall emit a waste gas stream from any ethylene producing plant or other ethylene emission source into the atmosphere unless the waste gas stream is properly burned at 1,300° F for 0.3 seconds

or greater in a direct-flame afterburner or an equally effective device as may be approved by the Board.

(2) No person shall emit organic materials to the atmosphere from a waste gas flare system unless such materials are burned by smokeless flares, or an equally effective control device as approved by the Board.

(3) The provisions of subsections (J) (1) and (J) (2) of this regulation shall not apply to emissions from emergency relief and vapor blowdown systems. Emissions from emergency relief and vapor blowdown systems shall be controlled upon special order of the Board, by burning by smokeless flare, or equally effective device as may be approved by the Board. (Adopted January 28, 1972; effective February 15, 1972.)

#### AP-5-08. Control of carbon monoxide emissions from stationary sources.

(A) These regulations are applicable to all existing stationary sources located within a Priority I Region and to all new stationary sources regardless of location.

(B) Except as otherwise provided in these regulations, all new stationary carbon monoxide emission sources shall minimize carbon monoxide emissions by use of the best available control techniques and operating practices in accordance with best current technology.

(C) Nothing in this regulation shall be construed to preclude the use of alternative means to abate emissions, if such alternative is approved by the Board and will not result in emissions significantly greater than would result from the application of the means specified herein.

(D) Process equipment.

No person shall emit the carbon monoxide gases generated during the operation of a grey iron cupola, blast furnace, or basic oxygen steel furnace unless they are burned at 1,300° F for 0.3 seconds or greater in a direct-flame afterburner or equivalent device equipped with an indicating pyrometer which is positioned in the working area at the operator's eye level.

(E) No person shall emit carbon monoxide waste-gas stream from any catalyst regeneration of a petroleum cracking system, petroleum fluid coker, or other petroleum process into the atmosphere, unless the waste gas stream is burned at 1,300° F for 0.3 seconds or greater in a direct-flame afterburner or boiler equipped with an indicating pyrometer which is positioned in the working area at the operator's eye level.

(Adopted January 28, 1972; effective February 15, 1972.)

#### AP-7-05. Classification of regions.

(A) Classification of regions shall be based upon



are employed or applied, and where any portion or portions of said series of articles, machines, equipment, or other contrivances involves operations described in subsection (G) (1) of this regulation, said portions shall be collectively subject to compliance with subsection (G) (1) of this regulation.

(4) Emissions of organic materials to the atmosphere from the cleanup with photochemically reactive materials of any article, machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), or (G) (3) of this regulation, shall be included with the other emissions of organic materials from that article, machine, equipment, or other contrivance for determining compliance with this regulation.

(5) Emissions of organic materials to the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), or (G) (3) of this regulation, shall be included with other emissions of organic materials from that article, machine, equipment, or other contrivance, for determining compliance with this regulation.

(6) Emissions of organic materials into the atmosphere required to be controlled by subsection (G) (1), (G) (2), or (G) (3) of this regulation, shall be reduced by:

(a) Incineration, provided that 90 percent or more of the carbon in the organic material being incinerated is oxidized to carbon dioxide, or

(b) Adsorption, or

(c) Processing in a manner determined by the Board to be not less effective than (a) or (b) above.

(7) A person incinerating, adsorbing, or otherwise processing liquid organic materials pursuant to this rule shall provide, properly install, and maintain in calibration, in good working order and in operation, devices as specified in the authority to construct or the permit to operate, or as specified by the Board, for indicating temperatures, pressures, rates of flow, or other operating conditions necessary to determine the degree and effectiveness of air pollution control.

(8) Any person using liquid organic materials or substances containing liquid organic materials shall supply the Board, upon request and in the manner and form prescribed by the Board, written evidence of the chemical composition, physical properties, and amount consumed for each organic solvent used.

(9) The provisions of section (G) of this regulation shall not apply to:

(a) The use of equipment for which other requirements are specified by sections (D), (E), and (F) of this regulation, or which are exempt from air pollution control requirements by said sections.

(b) The spraying or other employment of insecticides, pesticides, or herbicides.

(c) The use of any material, in any article,

PART II: EMISSION STANDARDS AND LIMITATIONS FOR STATIONARY SOURCES

Rule 201: DEFINITIONS.

ALL TERMS DEFINED IN PART 1 OF THIS CHAPTER WHICH APPEAR IN PART 2 OF THIS CHAPTER HAVE THE DEFINITIONS SPECIFIED BY RULE 101 OF PART 1 OF THIS CHAPTER.

Actual Heat Input: The quantity of heat produced by the combustion of fuel using the gross heating value of the fuel.

Architectural Coating: Any coating used for residential or commercial buildings or their appurtenances, or for industrial buildings which is site applied.

British Thermal Unit: The quantity of heat required to raise one pound of water from 60°F to 61°F (abbreviated btu).

Complete Combustion: A process in which all carbon contained in a fuel or gas stream is converted to carbon dioxide.

Concentrated Nitric Acid Manufacturing Process: Any acid producing facility manufacturing nitric acid with a concentration equal to or greater than 70 percent by weight.

Distillate Fuel Oil: Fuel oils of grade No. 1 or 2 as specified in detailed requirements for fuel oil A.S.T.M. D396-69 (1971).

Effluent Water Separator: Any tank, box, sump, or other apparatus in which any organic material floating on or entrained or contained in water entering such tank, box, sump, or other apparatus is physically separated and removed from such water prior to outfall, ~~and~~ recovery of such water.

Emission Rate: Total quantity of any air contaminant discharged into the atmosphere in any one-hour period.

Excess Air: Air supplied in addition to the theoretical quantity necessary for complete combustion of all fuel and/or combustible waste material.

Floating Roof: A roof on a stationary tank, reservoir or other container which moves vertically upon change in volume of the stored material.

Excessive Release: A discharge of more than 0.65 pounds of mercaptans and/or hydrogen sulfide into the atmosphere in any five minute period.

Floating Roof: A roof on a stationary tank, reservoir or other container which moves vertically upon change in volume of the stored material.

Fuel Combustion Emission Source: Any furnace, boiler, or similar equipment used for the primary purpose of producing heat or power by indirect heat transfer.

## ILLINOIS REGULATIONS

REC'D JAN 1974

## State of Illinois

# Air Pollution Control Regulations

Revised, Second Printing  
January 1973

Note: This printing of the Illinois Pollution Control Board Rules and Regulations for Air Pollution includes air pollution regulations as published in the Pollution Control Board Newsletter and the following opinions of the Pollution Control Board:

<u>In the Matter of Emission Standards</u>	—PCB R71-23
<u>In the Matter of Proposed Amendments</u>	
<u>to Episode Regulations</u>	—PCB R72-6
<u>In the Matter of Proposed Amendments</u>	
<u>to Open Burning Regulations</u>	—PCB R72-11
<u>In the Matter of Asbestos Regulations</u>	—PCB R71-16

Emission Standards, PCB R71-23, were effective April 14, 1972; Episode Regulation Amendments, PCB R72-6, were effective August 18, 1972, and Open Burning Regulation Amendments, PCB R72-11, were effective November 10, 1972.



Printed by Environmental Protection Agency

Fugitive Particulate Matter: Any particulate matter emitted into the atmosphere other than through a stack, provided that nothing in this definition or in Rule 203(f) shall exempt any source from compliance with other provisions of Rule 203 otherwise applicable merely because of the absence of a stack.

Gross Heating Value: Amount of heat produced when a unit quantity of fuel is burned to carbon dioxide and water vapor, and the water vapor condensed as described in A.S.T.M. D 2015-66, D 900-55, D 1826-64, and D 240-64.

Incinerator: Combustion apparatus in which refuse is burned.

Indirect Heat Transfer: Transfer of heat in such a way that the source of heat does not come into direct contact with process materials.

Major Metropolitan Area (MMA): Any county or group of counties which is defined by Table A.

One Hundred Per Cent Acid: Acid with a specific gravity of 1.8205 at 30°C in the case of sulfuric acid and 1.4952 at 30°C in the case of nitric acid.

Opacity: A condition which renders material partially or wholly impervious to transmittance of light and causes obstruction of an observer's view. For the purposes of these regulations, the following equivalence between opacity and Ringelmann shall be employed:

<u>Opacity Percent</u>	<u>Ringelmann</u>
10	0.5
20	1
30	1.5
40	2
60	3
80	4
100	5

TABLE A  
MAJOR METROPOLITAN AREAS IN ILLINOIS  
(MMA's)

<u>M M A</u>	<u>COUNTIES INCLUDED IN MMA</u>
(1) Champaign - Urbana	Champaign
(2) Chicago	Cook, Lake, Will, DuPage, McHenry, Kane, Grundy, Kendall, Kankakee
(3) Decatur	Macon
(4) Peoria	Peoria, Tazewell
(5) Rockford	Winnebago
(6) Rock Island - Moline	Rock Island
(7) Springfield	Sangamon
(8) St. Louis (Illinois)	St. Clair, Madison
(9) Bloomington - Normal	McLean

Organic Material: Any chemical compound of carbon including diluents and thinners which are liquids at standard conditions and which are used as solvents, viscosity reducers or cleaning agents, but excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbonic acid, metallic carbide, metallic carbonates, and ammonium carbonate.

Organic Vapor: Gaseous phase of an organic material or a mixture of organic materials present in the atmosphere.

Particulate Matter: Any solid or liquid material, other than water, which exists in finely divided form.

Photochemically Reactive Material: Any organic material with an aggregate of more than 20 per cent of its total volume composed of the chemical compounds classified below or the composition of which exceeds any of the following individual percentage composition limitations:

- (1) A combination of hydrocarbons, alcohols, aldehydes, esters, either or ketones having an olefinic or cyclo-olefinic type of unsaturation: 5 per cent. This definition does not apply to perchloroethylene or trichloroethylene.
- (2) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 per cent.
- (3) A combination of ethylbenzene, ketones having branched hydrocarbon structures or toluene: 20 per cent.

Whenever any photochemically reactive material or any constituent of any organic material may be classified from its chemical structure into more than one of the above groups of organic materials numbered (1), (2), (3), it shall be considered as a member of the most reactive group, that is, that group having the least allowable per cent of the total organic materials.

Portland Cement Process: Any facility manufacturing portland cement by either the wet or dry process.

PPM (Vol) - (Parts Per Million) (Volume): A volume/volume ratio which expresses the volumetric concentration of gaseous air contaminant in a million unit volumes of gas.

Pressure Tank: A tank in which fluids are stored at a pressure greater than atmospheric pressure.

Process: Any stationary emission source other than a fuel combustion emission source or an incinerator.

Process Weight Rate: The actual weight or engineering approximation thereof of all materials except liquid and gaseous fuels and combustion air, introduced into any process per hour. For a cyclical or batch operation, the process weight rate shall be determined by dividing such actual weight or engineering approximation thereof by the number of hours of operation excluding any time during which the equipment is idle. For continuous processes, the process weight rate shall be determined by dividing such actual weight or engineering approximation thereof by the number of hours in one complete operation excluding any time during which the equipment is idle.

Residual Fuel Oil: Fuel oils of grade No. 4, 5 and 6 as specified in detailed requirements for fuel oils A.S.T.M. D396-69 (1971).

Restricted Area: The area within the boundaries of any "municipality" as defined in the Illinois Municipal Code, plus a zone extending one mile beyond the boundaries of any such municipality having a population of 1000 or more according to the latest federal census.

Ringelmann Chart: The chart published and described in the Bureau of Mines, U.S. Department of Interior, Information Circular 8333 (Revision of IC7718) May 1, 1967, or any adaptation thereof which has been approved by the Agency.

Safety Relief Valve: A valve which is normally closed and which is designed to open in order to relieve excessive pressures within a vessel or pipe.

Sandblasting: The use of a mixture of sand and air at high pressures for cleaning and/or polishing any type of surface.

Set of Safety Relief Valves: One or more safety relief valves designed to open in order to relieve excessive pressures in the same vessel or pipe.

Shotblasting: The use of a mixture of any metallic or non-metallic substance and air at high pressures for cleaning and/or polishing any type of surface.

Smoke: Small gas-borne particles resulting from incomplete combustion, consisting predominantly but not exclusively of carbon, ash and other combustible material, that form a visible plume in the air.

Smokeless Flare: A combustion unit and the stack to which it is affixed in which organic material achieves combustion by burning in the atmosphere such that the smoke or other particulate matter emitted to the atmosphere from such combustion does not have an appearance, density, or shade darker than No. 1 of the Ringelmann Chart.

Splash Loading: A method of loading a tank, railroad tank car, tank truck or trailer by use of other than a submerged loading pipe.

Stack: A flue or conduit, free-standing or with exhaust port above the roof of the building on which it is mounted, by which air contaminants are emitted into the atmosphere.

Standard Conditions: A temperature of 70°F and a pressure of 14.7 pounds per square inch absolute (psia).

Standard Cubic Foot (SCF): The volume of one cubic foot of gas at standard conditions.

Startup: The setting in operation of an emission source for any purpose.

Stationary Emission Source: An emission source which is not self-propelled.

Submerged Loading Pipe: Any loading pipe the discharge opening of which is entirely submerged when the liquid level is six inches above the bottom of the tank. When applied to a tank which is loaded from the side, any loading pipe the discharge of which is entirely submerged when the liquid level is 18 inches or two times the loading pipe diameter, whichever is greater, above the bottom of the tank. This definition shall also apply to any loading pipe which is continuously submerged during loading operations.

Sulfuric Acid Mist: Sulfuric acid mist as measured according to the method specified in Rule 204(g)(2).

Unregulated Safety Relief Valve: A safety relief valve which cannot be actuated by a means other than high pressure in the pipe or vessel which it protects.

Volatile Organic Material: Any organic material which has a vapor pressure of 2.5 pounds per square inch absolute (psia) or greater at 70°F.

Weak Nitric Acid Manufacturing Process: Any acid producing facility manufacturing nitric acid with a concentration of less than 70 per cent by weight.

Woodworking: The shaping, sawing, grinding, smoothing, polishing and making into products of any form or shape of wood.

## Rule 202: Visual Emission Standards and Limitations.

For purposes of this Rule 202, all visual emission opacity standards and limitations shall be considered equivalent to corresponding Ringelmann Chart readings, as described under the definition of opacity.

### (a) Visual Emission Standards and Limitations for Certain New Emission Sources.

(1) New Fuel Combustion Emission Sources with Actual Heat Input Greater than 250 Million BTU per Hour. No person shall cause or allow the emission of smoke or other particulate matter into the atmosphere from any new fuel combustion emission source with actual heat input greater than 250 million btu per hour, having an opacity greater than 20 per cent. Exception: The emissions of smoke or other particulate matter from any such emission source may have an opacity greater than 20 per cent but not greater than 40 per cent for a period or periods aggregating 3 minutes in any 60 minute period, providing that such more opaque emission permitted during any 60 minute period shall occur from only one such emission source located within a 1,000 foot radius from the center point of any other such emission source owned or operated by such person, and provided further that such more opaque emissions permitted from each such fuel combustion emission source shall be limited to 3 times in any 24 hour period.

(2) New Portland Cement Processes. No person shall cause or allow the emission of smoke or other particulate matter from any new portland cement process into the atmosphere having an opacity greater than 10 per cent.

### (b) Visual Emission Standards and Limitations for All Other Emission Sources.

No person shall cause or allow the emission of smoke or other particulate matter from any other emission source into the atmosphere of an opacity greater than 30 per cent. Exception: The emission of smoke or other particulate matter from any such emission source may have an opacity greater than 30 per cent but not greater than 60 per cent for a period or periods aggregating 8 minutes in any 60 minute period provided that such more opaque emissions permitted during any 60 minute period shall occur from only one such emission source located within a 1,000 foot radius from the center point of any other such emission source owned or operated by such person,



and provided further that such more opaque emissions permitted from each such emission source shall be limited to 3 times in any 24 hour period.

(c) Exceptions to Rules 202(a) and 202(b).

(1) Startup.

Rules 202(a) and 202(b) shall apply during times of startup except as provided in the Operating Permit in Rules 103 and 105.

(2) Emissions of Water and Water Vapor.

Rules 202(a) and 202(b) shall not apply to emissions of water or water vapor from an emission source.

(3) Compliance with Rule 203 a Defense.

Rules 202(a) and 202(b) shall not apply if it is shown that the emission source was, at the time of such emission, in compliance with the applicable mass emission limitations of Rule 203.

(d) Determination of Violations of Rule 202.

Violations of Rule 202(a) and 202(b) shall be determined:

- (1) by visual observations; or
- (2) by the use of a calibrated smoke evaluation device approved by the Agency as specified in Rule 106 of Part I of this Chapter; or
- (3) by the use of a smoke monitor located in the stack and approved by the Agency as specified in Rule 106 of Part I of this Chapter.

(e) Compliance Dates.

- (1) Every owner or operator of a new emission source shall comply with the emission standards and limitations of this Rule 202 on the effective date of Part 2 of this Chapter.
- (2) Every owner or operator of an existing emission source shall comply with the emission standards and limitations of this Rule 202 by December 31, 1972; except that every owner or operator of an emission source subject to paragraph (g) of Rule 203, shall comply with the emission standards and limitations of this Rule 202 by May 30, 1975.

Rule 203: Particulate Emission Standards and Limitations.

(a) Particulate Emission Standards and Limitations for New Process Emission Sources.

Except as further provided in this Rule 203, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission source which, either alone or in combination with the emission of particulate matter from all other similar new process emission sources at a plant or premises, exceeds the allowable emission rates specified in Table 2.1 and in Figure 2.1.

Table 2.1

Standards for New Process Emission Sources

Process Weight Rate Pounds Per Hour	Process Weight Rate Tons Per Hour	Allowable Emission Rate Pounds Per Hour
100	0.05	0.55
200	0.10	0.77
400	0.20	1.10
600	0.30	1.35
800	0.40	1.58
1,000	0.50	1.75
1,500	0.75	2.40
2,000	1.00	2.60
4,000	2.00	3.70
6,000	3.00	4.60
8,000	4.00	5.35
10,000	5.00	6.00
20,000	10.00	8.70
30,000	15.00	10.80
40,000	20.00	12.50
50,000	25.00	14.00

Process Weight Rate Pounds Per Hour	Process Weight Rate Tons Per Hour	Allowable Emission Rate Pounds Per Hour
60,000	30.00	15.60
70,000	35.00	17.00
80,000	40.00	18.20
90,000	45.00	19.20
100,000	50.00	20.50
200,000	100.00	29.50
300,000	150.00	37.00
400,000	200.00	43.00
500,000	250.00	48.50
600,000	300.00	53.00
700,000	350.00	58.00
800,000	400.00	62.00
900,000	450.00	66.00
1,000,000	500.00	67.00

Interpolated and extrapolated (up to process weight rates of 450 tons per hour) values of the data in Table 2.1 shall be determined by using the equation:

$$E = 2.54 (P)^{0.534}$$

where:

E = allowable emission rate  
in pounds per hour;

and

P = process weight rate in  
tons per hour.

Interpolated and extrapolated values of the data of Table 2.1 for process weight greater or equal to 450 tons per hour shall be determined using the equation:

$$E = 24.8 (P)^{0.16}$$

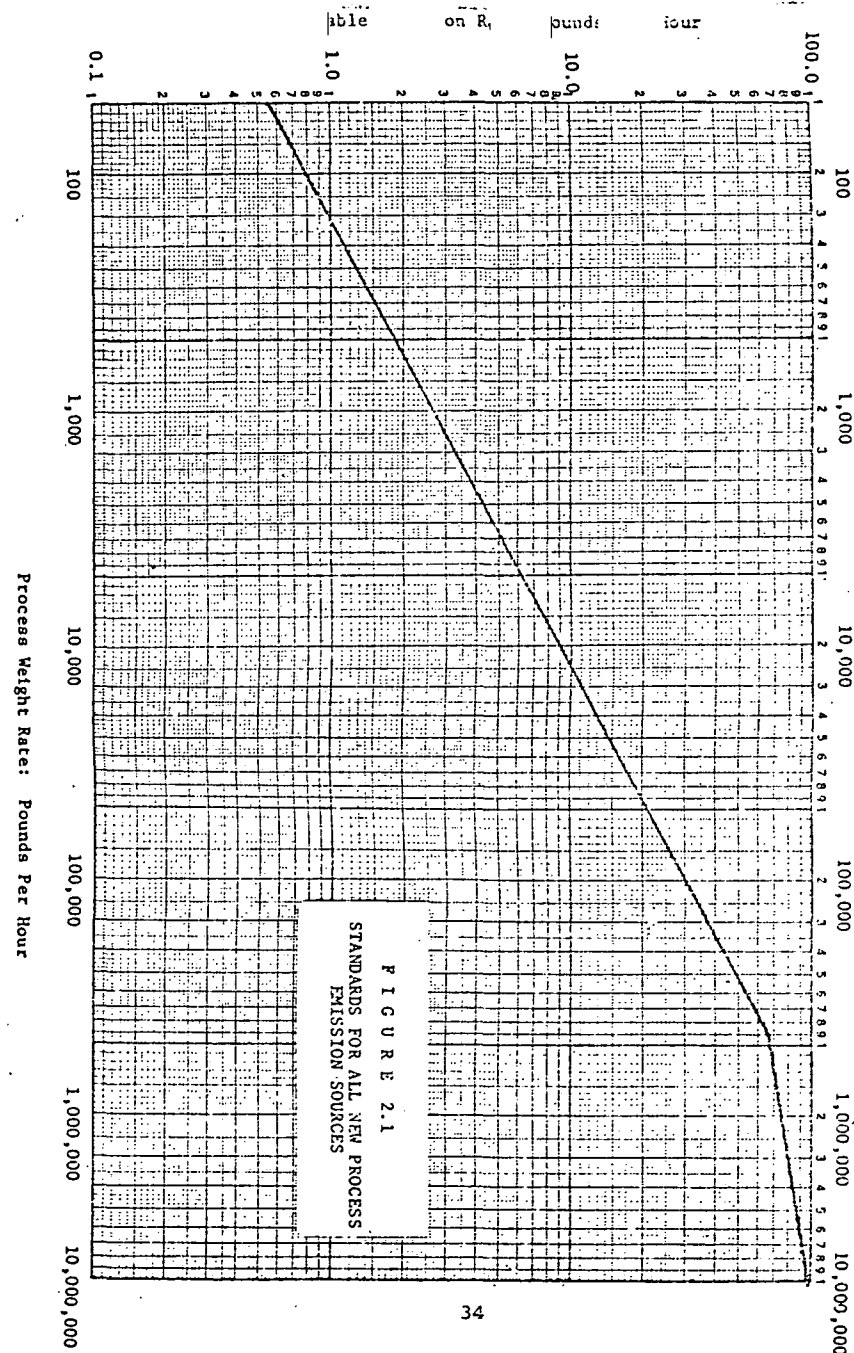
where:

E = allowable emission rate  
in pounds per hour.

and

P = process weight rate in  
tons per hour.

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(b) Particulate Emission Standards and Limitations for Existing Process Emission Sources.

Except as further provided in this Rule 203, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any existing process emission source which, either alone or in combination with the emission of particulate matter from all other similar new or existing process emission sources at a plant or premises, exceeds the allowable emission rates specified in Table 2.2 and in Figure 2.2.

Table 2.2

Standards for Existing Process Emission Sources

Process Weight Rate Pounds Per Hour	Process Weight Rate Tons Per Hour	Allowable Emission Rate Pounds per Hour
100	0.05	0.55
200	0.10	0.87
400	0.20	1.40
600	0.30	1.83
800	0.40	2.22
1,000	0.50	2.58
1,500	0.75	3.38
2,000	1.00	4.10
4,000	2.00	6.52
6,000	3.00	8.56
8,000	4.00	10.40
10,000	5.00	12.00
20,000	10.00	19.20
30,000	15.00	25.20
40,000	20.00	30.50
50,000	25.00	35.40

Process Weight Rate Pounds Per Hour	Process Weight Rate Tons Per Hour	Allowable Emission Rate Pounds Per Hour
60,000	30.00	40.00
70,000	35.00	41.30
80,000	40.00	42.50
90,000	45.00	43.60
100,000	50.00	44.60
200,000	100.00	51.20
300,000	150.00	55.40
400,000	200.00	58.60
500,000	250.00	61.00
600,000	300.00	63.10
700,000	350.00	64.90
800,000	400.00	66.20
900,000	450.00	67.70
1,000,000	500.00	69.00

Interpolated and extrapolated values of the data in Table 2.2 for process weight rates up to 30 tons per hour shall be determined by using the equation:

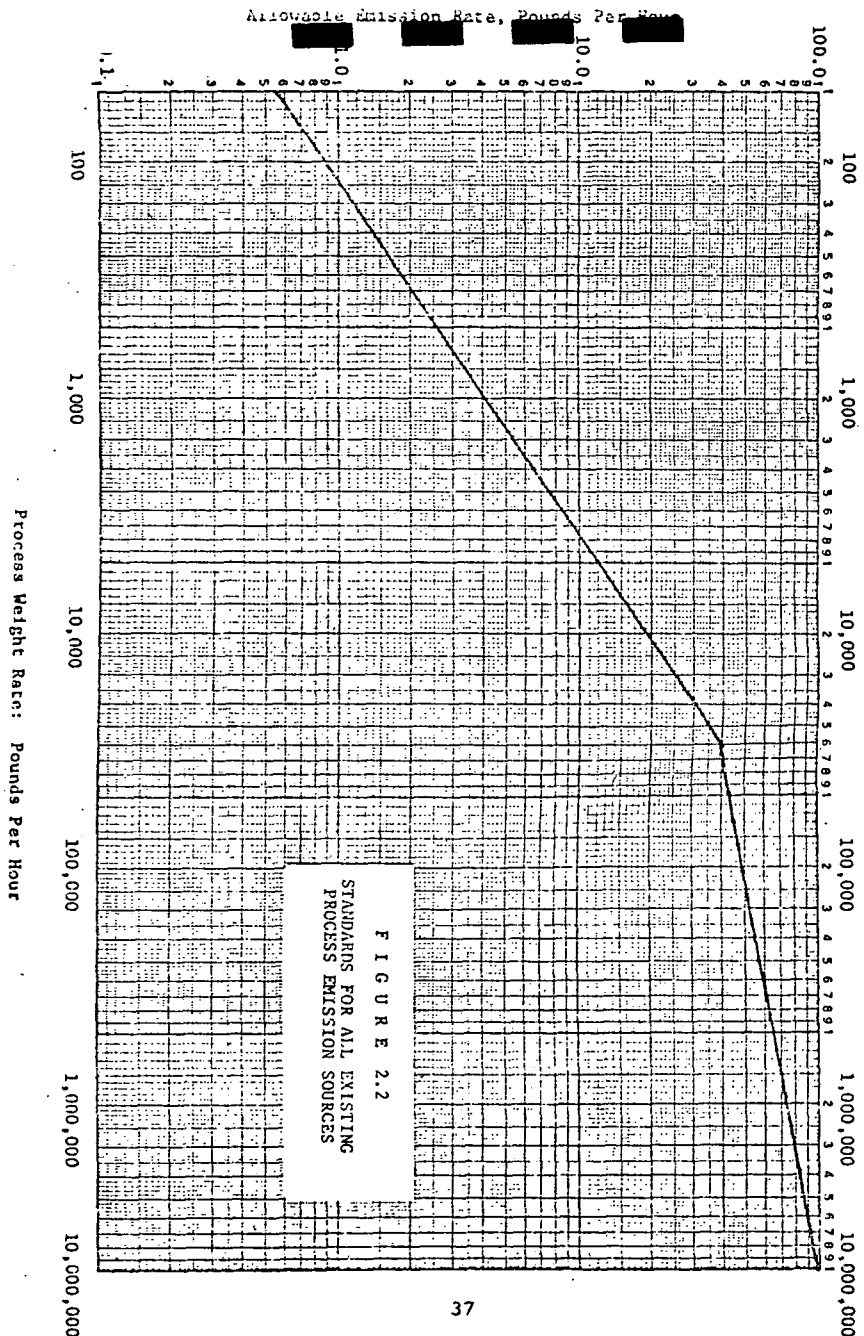
$$E = 4.10 (P)^{0.67}$$

and interpolated and extrapolated values of the data for process weight rates in excess of 30 tons per hour shall be determined by using the equation:

$$E = [55.0 (P)^{0.11}] - 40.0$$

where: E = allowable emission rate in pounds per hour,

and P = process weight rate in tons per hour.



(c) Compliance by Existing Process Emission Sources. Except as otherwise provided in this Rule 203, every existing process emission source that is not in compliance with paragraph (b) of this Rule 203 as of the effective date of Part 2 of this Chapter, shall comply with paragraph (a) of this Rule 203, unless both the following conditions are met:

- (1) The source is in compliance, as of the effective date of Part 2 of this Chapter, with the terms and conditions of a variance granted by the Pollution Control Board, or, within sixty (60) days of the effective date of this Chapter, the source is the subject of a variance petition filed with the Pollution Control Board, which variance is subsequently granted by the Board; and,
- (2) As of the effective date of Part 2 of this Chapter, construction has commenced on equipment or modifications sufficient to achieve compliance with paragraph (b) of this Rule 203.

(d) Exceptions to Rules 203(a), 203(b) and 203(c).

- (1) Catalyst Regenerators of Fluidized Catalytic Converters. Rules 203(a), 203(b) and 203(c) shall not apply to catalyst regenerators of fluidized catalytic converters. No person shall cause or allow the emission rate from new and existing catalyst regenerators of fluidized catalytic converters to exceed in any one hour period the rate determined using the following equations:

$$E = 4.10 (P)^{0.67} \quad \text{for } P \text{ less than or equal to 30 tons per hour.}$$

$$E = [55.0 (P)^{0.11}] - 40 \quad \text{for } P \text{ greater than 30 tons per hour.}$$

where,

E = allowable emission rate in pounds per hour.

P = catalyst recycle rate, including the amount of fresh catalyst added, in tons per hour.

(2) Sinter Processes. Rule 203(a), 203(b) and 203(c) shall not apply to any sinter process. No person shall cause or allow the emission of particulate matter into the atmosphere from the breaker stack of any sinter process to exceed the allowable emission rate specified by Table 2.1 of Rule 203(a). No person shall cause or allow the emission of particulate matter into the atmosphere from the main windbox of any sinter process to exceed 1.2 times the allowable emission rate specified by Table 2.1 of Rule 203(a).

(3) Portland Cement Manufacturing Processes. Rules 203(a) and 203(c) shall not apply to the kilns and coolers of portland cement manufacturing processes..

(A) The kilns and clinker coolers of existing portland cement manufacturing processes shall comply with the emission standards and limitations of Rule 203(b).

(B) The kilns and clinker coolers of new portland cement manufacturing processes shall comply with the following emission standards and limitations:

(i) No person shall cause or allow the emission of particulate matter into the atmosphere from any such kiln to exceed 0.3 pounds per ton of feed to the kiln.

(ii) No person shall cause or allow the emission of particulate matter into the atmosphere from any such clinker cooler to exceed 0.1 pounds per ton of feed to the kiln.

(4) Corn Wet Milling Processes.

Rules 203(a), 203(b) and 203(c) shall not apply to feed and gluten dryers in corn wet milling processes, where the exit gases have a dew point higher than the ambient temperature and the specific gravity of the material processed is less than 2.0. No person shall cause or allow the emission of particulate matter into the atmosphere from any such process:

(A) after the effective date of Part 2 of this Chapter, so as to exceed 0.3 grain per standard cubic foot of effluent gas; and

(B) on or after May 30, 1975, so as to exceed the emission standards and limitations specified in Rule 203(b).

(5) Grinding, Woodworking, Sandblasting and Shotblasting.

Rule 203(a), 203(b) and 203(c) shall not apply to the following industries, which shall be subject to Rule 203(f):

(A) Grinding,

(B) Woodworking,

(C) Sandblasting or Shotblasting.

(6) Coke Manufacturing Processes.

Rules 203(a), 203(b) and 203(c) shall not apply to coke manufacturing processes.

(A) Beehive Coke Ovens. No person shall cause or allow the use of beehive ovens in any coke manufacturing process.

(B) By-Product Coke Plants.

(1) Charging.

(aa) Sixty (60) days after the effective date of Part 2 of this Chapter and until December 31, 1973, no person shall cause or allow the emission of smoke or other particulate matter from any coke oven charging port into the atmosphere after withdrawal of the charging sleeve, except for a period or periods aggregating 20 seconds during any one coke oven charging operation. The charge car shall remain over the charging ports only as long as is needed to complete the charging operation.

(bb) On and after December 31, 1973, all coke oven facilities shall be equipped with automated, negative pressure charging systems, or shall employ alternative methods of comparable effectiveness in reducing emissions during charging; and after said date, no person shall cause or allow the emission of visible particulate matter, other than water, from any coke oven charging port into the atmosphere, except for a period or periods aggregating 15 seconds during any one coke oven charging operation. During such charging operation the emission of smoke or other particulate matter from the charging port or from the charging system into the atmosphere shall have an opacity of no greater than 30 per cent.

(11) Pushing and Quenching.

(aa) On and after July 1, 1972, no person shall cause or allow the emission of smoke or other particulate matter, other than water, of an opacity greater than 30 per cent, from a coke manufacturing process quench tower into the atmosphere.

(bb) On and after December 31, 1974, all coke oven facilities shall be equipped with enclosed pushing and quenching systems with particulate collection equipment, or shall employ alternative methods of comparable effectiveness in reducing emission during pushing and quenching.

(iii) Work Rules. No person shall cause or allow the operation of a by-product coke plant without operating and maintenance work rules approved by the Agency. Such work rules shall be submitted to and approved by the Agency no later than 60 days after the effective date of Part 2 of this Chapter. No such plan shall be approved by the Agency unless it contains, as a minimum, information sufficient to prove to the Agency that the emission of specified air contaminants will conform to the requirement of this Rule 203.

(iv) Coke Oven Doors.

(aa) On and after July 1, 1972, no person shall cause or allow the operation of a coke oven that emits any specified air contaminants into the atmosphere during coking from the coke oven doors for more than ten minutes after commencement of the coking cycle. During such ten minutes the emission shall have an opacity no greater than 30 per cent.

(bb) On and after July 1, 1972, no person shall cause or allow the operation of a coke oven unless

(bb-1) there is, on the plant premises an inventory of spare coke oven doors and seals at all times, and

(bb-2) there is, on the plant premises, a repair facility capable of prompt and efficient repair of coke oven doors and seals.

(7) Certain Small Foundries. Rules 203(a), 203(b) and 203(c) shall not apply to foundry cupolas if all the following conditions are met:

(A) The cupola was in existence prior to April 15, 1967; and,

(B) The Cupola process weight rate is less than or equal to 20,000 lb/hr.; and,

(C) The cupola as of the effective date of Part 2 of this Chapter, either;

(i) is in compliance with the following Table 2.3; or,

(ii) is in compliance with the terms and conditions of a variance granted by the Pollution Control Board and, construction has commenced on equipment or modifications sufficient to achieve compliance with Table 2.3.

Table 2.3

Allowable Emissions from Small Foundries

covered by Rule 203(d)(7).

Process Weight Rate Pounds Per Hour	Allowable Emission Rate Pounds Per Hour
1,000	3.05
2,000	4.70
3,000	6.35
4,000	8.00
5,000	9.58
6,000	11.30
7,000	12.90

Process Weight Rate  
Pounds Per Hour

Allowable  
Emission Rate  
Pounds Per Hour

8,000	14.30
9,000	15.50
10,000	16.65
12,000	18.70
16,000	21.60
18,000	23.40
20,000	25.10

For process weight rates not listed in Table 2.3, straight line interpolation between two consecutive process weight rates shall be used to determine allowable emission rates.

(8) Stock Piles. Rules 203(a), 203(b) and 203(c) shall not apply to emission sources, such as stock piles of particulate matter, to which, because of the disperse nature of such emission sources, such rules cannot reasonably be applied.

(e) Particulate Emission Standards and Limitations for Inciner

- (1) No person shall cause or allow the emission of particulate matter into the atmosphere from any incinerator burning more than 60,000 pounds of refuse per hour to exceed 0.05 grains per standard cubic foot of effluent gases corrected to 12 per cent carbon dioxide.
- (2) No person shall cause or allow the emission of particulate matter into the atmosphere from any incinerator burning more than 2000 pounds of refuse per hour to exceed 0.08 grain per standard cubic foot of effluent gases corrected to 12 per cent carbon dioxide.

- (3) No person shall cause or allow the emission of particulate matter into the atmosphere from all other existing incinerators to exceed 0.2 grains per standard cubic foot of effluent gases corrected to 12 per cent carbon dioxide.
- (4) No person shall cause or allow the emission of particulate matter into the atmosphere from all other new incinerators to exceed 0.1 grains per standard cubic foot of effluent gases corrected to 12 per cent carbon dioxide.
- (5) Exception: Subparagraphs (1), (2) and (4) of this Rule 203(e) shall not apply to incinerators which burn wood wastes exclusively, if all the following conditions are met:
- (A) The emission of particulate matter from such incinerator does not exceed 0.2 grains per standard cubic foot of effluent gases corrected to 12 per cent carbon dioxide; and,
  - (B) The location of such incinerator is not in a restricted area, and is more than 1000 feet from residential or other populated areas; and,
  - (C) When it can be affirmatively demonstrated that no economically reasonable alternative method of disposal is available.
- (f) Fugitive Particulate Matter.
- (1) No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the emission source.
  - (2) No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, in such a manner that the presence of such particulate matter shown to be larger than forty (40) microns (mean diameter) in size exists beyond the property line of the emission source.
  - (3) Rules 203(f)(1) and 203(f)(2) shall not apply to emissions of fugitive particulate matter from stockpiles of materials when the wind speed is greater than 25 miles per hour. Determination of wind speed for the purposes of this rule shall be by a one-hour average at the nearest official station of the

U.S. Weather Bureau, by interpretation of surface weather maps by a meteorologist, or by wind speed instruments installed on the stockpile site.

- (4) No person shall cause or allow the operation of a vehicle of the second division as defined by Ill. Rev. Stat., Ch. 95 1/2, §1-217, as revised, or a Semitrailer as defined by Ill. Rev. Stat., Ch. 95 1/2, §1-187, as revised, without a covering sufficient to prevent the release of particulate matter into the atmosphere, provided that this paragraph (f)(4) of this Rule 203 shall not apply to automotive exhaust emissions.
  - (5) Except for the stockpiling of materials, Rule 203(f) shall not apply to emissions resulting from the manufacture of coke.
  - (6) Rule 203(f) shall not apply to emissions of water and water vapor from cooling towers.
- (g) Particulate Emission Standards and Limitations for Fuel Combustion Emission Sources.
- (1) Fuel Combustion Emission Sources Using Solid Fuel Exclusively.
    - (A) Existing Fuel Combustion Emission Sources Using Solid Fuel Exclusively Located in the Chicago Major Metropolitan Area. No person shall cause or allow the emission of particulate matter into the atmosphere from any existing fuel combustion source using solid fuel exclusively, located in the Chicago major metropolitan area, to exceed 0.1 pounds of particulate matter per million btu of actual heat input in any one hour period except as provided in sub-paragraph (C) of this Rule 203 (g)(1).
    - (B) Existing Fuel Combustion Emission Sources Using Solid Fuel Exclusively Located Outside the Chicago Major Metropolitan Area. No person shall cause or allow the emission of particulate matter into the atmosphere from any existing fuel combustion source using solid fuel exclusively, located outside the Chicago major metropolitan area, to exceed the limitations specified in Table 2.4 and Figure 2.3 in any one hour period except as provided in sub-paragraph (C) of this Rule 203(g)(1):



Table 2.4

<u>Fuel Combustion Emission Source</u>	<u>S</u>
<u>Actual Heat Input</u>	<u>Allowable Emission Standard</u>
<u>million btu per hour</u>	<u>pounds per million btu</u>
less than or equal to 10	1.0
greater than 10 but smaller than 250	$\frac{5.18}{(H_s)}$ 0.715
greater than or equal to 250	0.1

$S_s$  = allowable emission standard in pounds per million btu of actual heat input

$H_s$  = actual heat input, million btu per hour

(C) Existing Controlled Fuel Combustion Emission Sources Using Solid Fuel Exclusively.

Notwithstanding sub-paragraphs (A) and (B) of this Rule 203(g)(1), any existing fuel combustion source using solid fuel exclusively may emit up to, but not exceed, 0.2 pounds per million btu, if, as of the effective date of Part 2 of this Chapter, either of the following conditions is met:

- (i) The emission source has an emission rate based on original design or equipment performance test conditions, whichever is stricter, which is less than 0.2 pounds per million btu of actual heat input, and the emission control of such source is not allowed to degrade more than 0.05 pounds per million btu from such original design or acceptance performance test conditions; or,
- (ii) The source is in full compliance with the terms and conditions of a variance granted by the Pollution Control Board sufficient to achieve an emission rate less than 0.2 pounds per million btu, and construction has commenced on equipment or modifications prescribed

under that program; and emission control of such source is not allowed to degrade more than 0.05 pounds per million btu from original design or equipment performance test conditions, whichever is stricter.

(D) New Fuel Combustion Emission Sources Using Solid Fuel Exclusively.

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new fuel combustion emission source using solid fuel exclusively, to exceed 0.1 pounds of particulate matter per million btu of actual heat input.

PROVISO: Nothing in this rule 203(g)(1) shall be construed to apply in any manner inconsistent with the following paragraph 8(B) of an order of the Circuit Court of Cook County dated April 13, 1972 in case no. 72 CH 1484:

"The defendants, and each of them, their agents, employees, and attorneys, are hereby restrained for a period of ten days from the date hereof from (1) adopting or from (2) holding or conducting, scheduling or rescheduling public hearings pertaining to the adoption of proposed Rule 203(g)(1)(A) of the Illinois Pollution Control Board and so much of proposed Rule 203(g)(1)(C) of the Illinois Pollution Control Board as pertains to proposed Rule 203(g)(1)(A), insofar as such rules pertain to the use of coal as a source of fuel in residential and commercial buildings in the Chicago Major Metropolitan Area, or from (1) adopting or from (2) holding or conducting public hearings to adopt a rule which would eliminate or ban the use of coal as a source of fuel in residential and commercial buildings in the Chicago Major Metropolitan Area as such area is defined by the Illinois Pollution Control Board, unless there is a provision in said proposed rule for just compensation to owners of businesses in the class represented by plaintiffs and to owners of commercial and residential buildings whose property rights would be affected by said rule wherever said rule is effective."

And such further orders as may be entered by the Court.

- (2) Fuel Combustion Emission Sources Using Liquid Fuel Exclusively. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period to exceed 0.10 pounds of particulate matter per million btu of actual heat input from any fuel combustion emission source using liquid fuel exclusively.

- (3) Fuel Combustion Emission Sources Using More Than One Type of Fuel. No person, while simultaneously burning more than one type of fuel in a fuel combustion emission source, shall cause or allow the emission of particulate matter into the atmosphere in any one hour period in excess of the following equation:

$$E = S_s H_s + 0.10 H_l$$

where:

E = allowable particulate emission rate in pounds per hour;

$S_s$  = solid fuel particulate emission standard which is applicable, pounds per million btu of actual heat input;

$H_s$  = actual heat input from solid fuel in million btu per hour; and

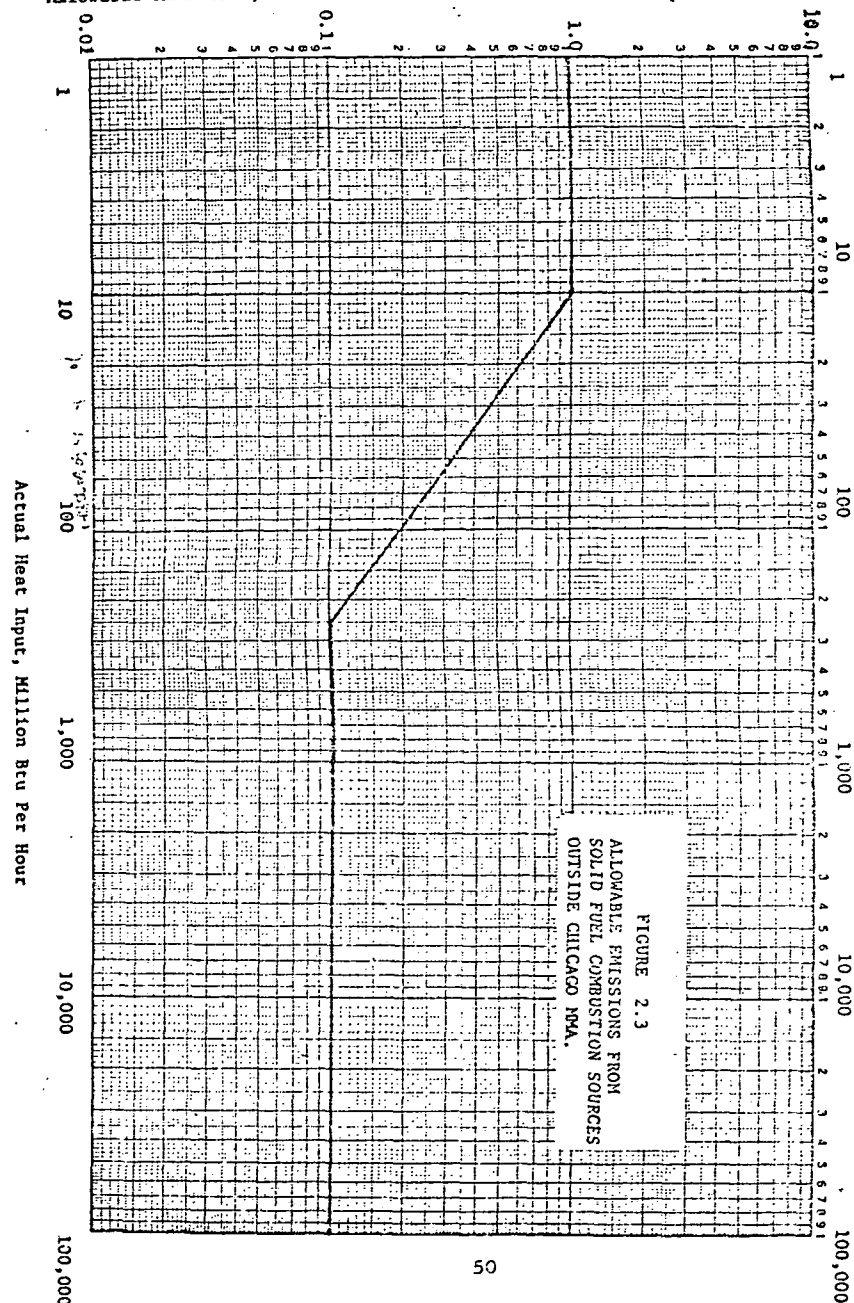
$H_l$  = actual heat input from liquid fuel in million btu per hour.

- (4) Aggregation of Existing Fuel Combustion Sources.

Rule 203(g)(3) may be applied to the aggregate of all fuel combustion emission sources vented to a common stack provided that after January 26, 1972:

- ductwork has not been modified so as to interconnect such existing fuel combustion emission sources;
- the actual heat input to any such existing fuel combustion emission source is not increased; and,
- no new fuel combustion emission source is added to reduce the degree of control of emissions of particulate matter required by paragraph (g) of this Rule 203.

Allowable Emissions, Pounds Per Million Btu Actual Heat Input



(h) Measurement Methods. Particulate emissions from stationary emission sources subject to Rule 203, shall be determined by the procedures described in the ASME Power Test Code 27-1957 as revised from time to time, or by any other equivalent procedures approved by the Agency.

(i) Compliance Dates.

- (1) Every owner or operator of a new emission source shall comply with the standards and limitations of Rule 203 of the effective date of Part 2 of this Chapter.
- (2) Except as otherwise provided in paragraph (d)(4), (d)(6), (i)(3), (i)(4), and (i)(5) of this Rule 203, every owner or operator of an existing emission source shall comply with the standards and limitations of Rule 203 by December 31, 1973.
- (3) Every owner or operator of an existing emission source subject to paragraph (f) of this Rule 203 shall comply with the standards and limitations of this Rule 203:
  - (A) six months after the effective date of Part 2 of this Chapter when the emissions from such source are caused by the stockpiling of materials;
  - (B) six months after the effective date of Part 2 of this Chapter for emission sources subject to paragraph (f)(4) of this Rule 203; and
  - (C) one year after the effective date of Part 2 of this Chapter for all other emission sources subject to paragraph (f) of this Rule 203.
- (4) Every owner or operator of an existing emission source subject to paragraph (g) of this Rule 203 shall comply with the standards and limitations of Rule 203 by May 30, 1975.

(5) Notwithstanding any other provisions of Rule 203 of this Part 2, every owner or operator of an existing emission source which:

- (A) is required to comply with Rules 2-2.51, 2-2.52, 2-2.54, 3-3.111, 3-3.2110, 3-3.2130 and 3-3.220 of Rules and Regulations Governing the Control of Air Pollution as amended August 19, 1969; and
- (B) which is in compliance with such rules, as of the effective date of this Chapter, or is in compliance with paragraphs 203(c)(1) and (2) of this Chapter.

shall comply with the applicable emission standards and limitations of this Rule 203, by May 30, 1975.

Rule 204: Sulfur Standards and Limitations.

(a) Sulfur Dioxide Emission Standards and Limitations for New Fuel Combustion Emission Sources with Actual Heat Input Greater than 250 Million Btu per Hour.

(1) Solid Fuel Burned Exclusively. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion emission source greater than 250 million btu per hour, burning solid fuel exclusively, to exceed 1.2 pounds of sulfur dioxide per million btu of actual heat input.

(2) Liquid Fuel Burned Exclusively. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion emission source greater than 250 million btu per hour, burning liquid fuel exclusively;

(A) to exceed 0.8 pounds of sulfur dioxide per million btu of actual heat input when residual fuel oil is burned; and

(B) to exceed 0.3 pounds of sulfur dioxide per million btu of actual heat input when distillate fuel oil is burned.

(b) Sulfur Dioxide Emission Standards and Limitations for New Fuel Combustion Emission Sources with Actual Heat Input Smaller Than, or Equal to, 250 Million Btu per Hour.

(1) Solid Fuel Burned Exclusively. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than, or equal to, 250 million btu per hour, burning solid fuel exclusively, to exceed 1.8 pounds of sulfur dioxide per million btu of actual heat input.

(2) Liquid Fuel Burned Exclusively. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than, or equal to, 250, million btu per hour, burning liquid fuel exclusively;

(A) to exceed 1.0 pounds of sulfur dioxide per million btu of actual heat input when residual fuel oil is burned; and

(B) to exceed 0.3 pounds of sulfur dioxide per million btu of actual heat input when distillate fuel oil is burned.

(c) Sulfur Dioxide Emission for Existing Fuel Combustion Sources

(1) Solid Fuel Burned Exclusively.

(A) Existing Fuel Combustion Sources Located in the Chicago, St. Louis (Illinois) and Peoria Major Metropolitan Areas. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any existing fuel combustion source, burning solid fuel exclusively, located in the Chicago, St. Louis (Illinois) and Peoria major metropolitan areas, to exceed 1.8 pounds of sulfur dioxide per million btu of actual heat input, on or after May 30, 1975.

(B) Existing Fuel Combustion Sources Located Outside the Chicago, St. Louis (Illinois) and Peoria Major Metropolitan Areas. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any existing fuel combustion source, burning solid fuel exclusively, located outside the Chicago, St. Louis (Illinois) and Peoria major metropolitan areas, to exceed the following:

(i) 6.0 pounds of sulfur dioxide per million btu of actual heat input, on and after May 30, 1975; and

(ii) 1.8 pounds of sulfur dioxide per million btu of actual heat input for all such fuel combustion emission sources located within any MMA other than Chicago, Peoria, and St. Louis (Illinois) which, according to any one ambient air monitoring station operated by or under supervision and control of the Agency within such MMA, has an annual arithmetic average sulfur dioxide level greater than;

60 ug/m<sup>3</sup> (0.02 ppm) for any year ending prior to May 30, 1976, or

45 ug/m<sup>3</sup> (0.015 ppm) for any year ending on or after May 30, 1976.

Compliance with this paragraph (11) of Rule 204(c)(1)(B) shall be on and after three years from the date upon which the Board promulgates an Order for Compliance.

Before promulgation of such Order for Compliance, the Board shall:

- (aa) publish in the Board Newsletter, within 21 days of receipt from the Agency, a proposed Order for Compliance along with the data used to obtain said annual arithmetic average sulfur dioxide level; and,
- (bb) serve a copy of such proposed Order and supporting data, within 21 days of receipt from the Agency, upon the owner or operator of each such emission source located within the MMA; and,
- (cc) defer promulgation of the Order for Compliance for at least 45 days from the date of publication to allow submission and consideration of additional written comments.

(2) Liquid Fuel Burned Exclusively. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any existing fuel combustion emission source, burning liquid fuel exclusively;

(A) to exceed 1.0 pounds of sulfur dioxide per million btu of actual heat input when residual fuel oil is burned; and,

(B) to exceed 0.3 pounds of sulfur dioxide per million btu of actual heat input when distillate fuel oil is burned.

(d) Combination of Fuels. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any fuel combustion emission source burning simultaneously any combination of solid, liquid and gaseous fuels to exceed the allowable emission rate determined by the following equation:

$$E = S_S H_S + 0.3 H_d + S_R H_R$$

where:

E = allowable sulfur dioxide emission rate, in pounds per hour;

$S_S$  = solid fuel sulfur dioxide emission standard, in pounds per million btu, which is applicable;

$S_R$  = residual fuel oil sulfur dioxide emission standard, in pounds per million btu, which is applicable;

$H_S$  = actual heat input from solid fuel, in million btu per hour;

$H_R$  = actual heat input from residual fuel oil, in million btu per hour;

$H_d$  = actual heat input from distillate fuel oil, in million btu per hour;

and where that portion of the actual heat input that is derived:

- (1) from the burning of gaseous fuels produced by the gasification of solid fuels shall be included in  $H_S$ ;
- (2) from the burning of gaseous fuels produced by the gasification of distillate fuel oil shall be included in  $H_d$ ;
- (3) from the burning of gaseous fuels produced by the gasification of residual fuel oil shall be included in  $H_R$ ;
- (4) from the burning of gaseous fuels produced by the gasification of any other liquid fuel shall be included in  $H_R$ ; and,
- (5) from the burning of by-product gases such as those produced from a blast furnace or a catalyst regeneration unit in a petroleum refinery shall be included in  $H_R$ .

(e) Combination of Fuel Combustion Emission Sources. No person shall cause or allow the total emissions of sulfur dioxide into the atmosphere in any one hour period from all fuel combustion emission sources owned or operated by such person and located within a 1 mile radius from the center point of any such fuel combustion emission source to exceed the emissions determined by the following equations:

$$E = 20,000 \left( \frac{H_S}{300} \right)^2$$

$$H_S = \frac{P_1 H_1 + P_2 H_2 + \dots + P_n H_n}{100}$$

(Note:  $P_1 + P_2 + \dots + P_n = 100$ )

where: E = total emission of sulfur dioxide, in pounds per hour, into the atmosphere in any one hour period from all fuel combustion emission sources owned or operated by such person and located within a 1 mile radius from the center point of any such emission source.

$P_{i,1} = 1, 2, \dots, n$  = percentage of total emissions  
E emitted from source 1;

$H_{i,1} = 1, 2, \dots, n$  = physical height in feet above  
grade of stack 1.

(f) Sulfur Standards and Limitations for Process Emission Sources.

(1) Sulfur Dioxide Standards and Limitations.

- (A) Except as further provided by paragraphs (f)(1)(B), (f)(1)(C) and (f)(1)(D) of this Rule 204, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.
- (B) Paragraph (f)(1)(A) of this Rule 204 shall not apply to new sulfuric acid manufacturing processes. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any new sulfuric acid manufacturing plant to exceed 4.0 pounds of sulfur dioxide per ton of acid produced.
- (C) Paragraph (f)(1)(A) of this Rule 204 shall not apply to processes designed to remove sulfur compounds from the flue gases of fuel combustion emission sources.
- (D) Paragraph (f)(1)(A) of this Rule 204 shall not apply to existing processes designed to remove sulfur compounds from the flue gases of petroleum and petrochemical processes, providing that the sulfur dioxide emissions from such removal processes do not exceed the emissions determined by the equations of Rule 204(e).

(2) Sulfuric Acid Mist Standards and Limitations.

No person shall cause or allow the emission of sulfuric acid mist into the atmosphere from any process emission source to exceed 0.15 pounds of acid mist per ton of acid used or manufactured.

(g) Measurement Methods.

(1) Sulfur Dioxide Measurement.

Measurement of sulfur dioxide emissions from stationary sources shall be made according to the procedure published in 36 Fed. Reg. 24890, Method 6, or by

measurement procedures specified by the Agency according to the provisions of Part 1 of this Chapter and application of standard emission factors as published in Public Health Service Publication 999-AP-42, Compilation of Air Pollutant Emission Factors, as revised from time to time.

(2) Sulfuric Acid Mist and Sulfur Trioxide Measurement.

Measurement of sulfuric acid mist and sulfur trioxide shall be according to the Barium-thorin titration method as published in 36 Fed. Reg. 24893.

(3) Solid Fuel Averaging Measurement.

If low sulfur solid fuel is used to comply with subparagraphs (a), (b), (c), and (d) of this Rule 204, the applicable solid fuel sulfur dioxide standard shall be met by a two month average of daily samples with 95 per cent of the samples being no greater than 20 per cent above the average. A.S.T.M. procedures shall be used for solid fuel sampling, sulfur and heating value determinations.

(h) Compliance Dates.

- (1) Every owner or operator of a new emission source shall comply with the standards and limitations of Rule 204 by the effective date of Part 2 of this Chapter.
- (2) Every owner or operator of an existing fuel combustion emission source shall comply with the standards and limitations of Rules 204(c)(1)(A), 204(c)(2), 204(d) and 204(e) by May 30, 1975.
- (3) Every owner or operator of an existing process emission source shall comply with the standards and limitations of Rule 204(f) by December 31, 1973.

Rule 205: Organic Material Emission Standards and Limitations.

- (a) Storage. No person shall cause or allow the storage of any volatile organic material in any stationary tank, reservoir or other container of more than 40,000 gallons capacity unless such tank, reservoir or other container:
- (1) is a pressure tank capable of withstanding the vapor pressure of such materials, so as to prevent vapor or gas loss to the atmosphere at all times; or,
  - (2) is designed and equipped with one of the following vapor loss control devices:
    - (A) A floating roof which rests on the surface of the volatile organic material and is equipped with a closure seal or seals to close the space between the roof edge and the tank wall. Such floating roof shall not be permitted if the volatile organic material has a vapor pressure of 12.5 pounds per square inch absolute or greater at 70°F. No person shall cause or allow the emission of air contaminants into the atmosphere from any gauging or sampling devices attached to such tanks, except during sampling.
    - (B) A vapor recovery system consisting of:
      - (i) a vapor gathering system capable of collecting 85% or more of the uncontrolled volatile organic material that would be otherwise emitted to the atmosphere; and,
      - (ii) a vapor disposal system capable of processing such volatile organic material so as to prevent their emission to the atmosphere. No person shall cause or allow the emission of air contaminants into the atmosphere from any gauging or sampling devices attached to such tank, reservoir or other container except during sampling.
    - (C) Other equipment or means of equal efficiency approved by the Agency according to the provisions of Part 1 of this Chapter 3; or,
  - (3) is an existing cone roof tank used exclusively for the storage of Illinois crude oil, if all the following conditions are met:

- (A) The vapor pressure of such crude oil is less than 5 pounds per square inch absolute (psia); and,
- (B) the location of such tank is outside a major metropolitan area; and,
- (C) such tank is equipped with positive pressure tank vent valves and vacuum breakers.

(b) Loading.

- (1) No person shall cause or allow the discharge of more than 8 pounds per hour of organic material into the atmosphere during the loading of any organic material from the aggregate loading pipes of any loading facility having a throughput of greater than 40,000 gallons per day into any railroad tank car, tank truck or trailer, unless each such loading pipe is equipped with air pollution control equipment capable of reducing by 85 per cent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere if splash loading were employed.
- (2) No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 250 gallons, unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Agency according to the provisions of Part 1 of this Chapter, or unless such tank is a pressure tank as described in Rule 205(a)(1) or is fitted with a recovery system as described in Rule 205(a)(2).
- (3) Exception: If no odor nuisance exists the limitation of subparagraph (b) of this Rule 204 shall only apply to volatile organic material.

(c) Organic Material-Water Separation.

- (1) No person shall use any single or multiple compartment effluent water separator which receives effluent water containing 200 gallons a day or more of organic material from any equipment processing, refining, treating, storing, or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of reducing by 85 per cent or more the uncontrolled organic material emitted to the atmosphere.  
Exception: If no odor nuisance exists the limitation of this Rule 205(c)(1) shall only apply to volatile organic material.

(2) Rule 205(c)(1) shall not apply to water and crude oil separation in the production of Illinois crude oil, if both the following conditions are met:

(A) The vapor pressure of such crude oil is less than 5 pounds per square inch absolute (psia); and,

(B) The location of such tank is outside a major metropolitan area.

(d) Pumps and Compressors. No person shall cause or allow the discharge of more than two cubic inches of liquid volatile organic material into the atmosphere from any pump or compressor in any 15 minute period at standard conditions.

(e) Architectural Coatings. No person shall cause or allow the sale or use in the Chicago or St. Louis (Illinois) Major Metropolitan Areas of any architectural coating containing more than 20 per cent by volume of photochemically reactive material in containers having a capacity of more than one gallon.

(f) Use of Organic Material. No person shall cause or allow the discharge of more than 8 pounds per hour of organic material into the atmosphere from any emission source, except as provided in paragraphs (f)(1) and (f)(2) of this Rule 205 and the following: Exception: If no odor nuisance exists the limitation of this Rule 205(f) shall apply only to photochemically reactive material.

(1) Alternative Standard. Emissions of organic material in excess of those permitted by Rule 205(f) are allowable if such emissions are controlled by one of the following methods:

(A) flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 per cent of the hydrocarbons to carbon dioxide and water; or,

(B) a vapor recovery system which adsorbs and/or absorbs and/or condenses at least 85 per cent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere; or,

(C) any other air pollution control equipment approved by the Agency capable of reducing by 85 per cent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere.

(2) Exceptions: The provisions of Rule 205(f) shall not apply to:

(A) the spraying or use of insecticides, herbicides, or other pesticides;

(B) fuel combustion emission sources;

(C) the application of paving asphalt and pavement marking paint from sunrise to sunset and when air pollution watch, alert or emergency conditions are not declared;

(D) any owner, operator, user or manufacturer of paint, varnish, lacquer, coatings or printing ink whose Compliance Program and Project Completion Schedule, as required by Part 1 of this Chapter, provides for the reduction of organic material used in such process to 20 per cent or less of total volume by May 30, 1975.

(g) Waste Gas Disposal.

(1) Petroleum Refinery and Petrochemical Manufacturing Process Emissions. No person shall cause or allow the discharge of organic materials into the atmosphere from:

(A) any catalyst regenerator of a petroleum cracking system; or,

(B) any petroleum fluid coker; or,

(C) any other waste gas stream from any petroleum or petrochemical manufacturing process;

in excess of 100 ppm equivalent methane (molecular weight 16.0).

(2) Vapor Blowdown. No person shall cause or allow the emission of organic material into the atmosphere from any vapor blowdown system or any safety relief valve, except such safety relief valves not capable of causing an excessive release, unless such emission is controlled:

(A) to 10 ppm equivalent methane (molecular weight 16.0) or less; or,

(B) by combustion in a smokeless flare; or,

(C) by other air pollution control equipment approved by the Agency according to the provisions of Part 1 of this Chapter.



(3) Sets of Unregulated Safety Relief Valves Capable of Causing Excessive Releases. Rule 205(g)(2) shall not apply to any set of unregulated safety relief valves capable of causing excessive releases, provided that the owner or operator thereof, by October 1, 1972, provides the Agency with the following.

(A) an historical record of each such set (or, if such records are unavailable, of similar sets which, by virtue of operation under similar circumstances, may reasonably be presumed to have the same or greater frequency of excessive releases) for a three-year period immediately preceding October 1, 1972, indicating:

(1) dates on which excessive releases occurred from each such set; and,

(1i) duration in minutes of each such excessive release; and;

(1ii) quantities (in pounds) of mercaptans and/or hydrogen sulfide emitted into the atmosphere during each such excessive release.

(B) proof, using such three-year historical records, that no excessive release is likely to occur from any such set either alone or in combination with such excessive releases from other sets owned or operated by the same person and located within a ten-mile radius from the center point of any such set, more frequently than 3 times in any 12 month period; and

(C) accurate maintenance records pursuant to the requirements of paragraph (g)(3)(A) of this Rule 205 of this Chapter; and

(D) proof, at three-year intervals, using such three-year historical records, that such set conforms to the requirement of paragraph (g)(3)(C) of this Rule 205.

(h) Emissions During Clean-up Operations and Organic Material Disposal. Emissions of organic material released during clean-up operations and disposal shall be included with other emissions of organic material from the related emission source or air pollution control equipment determining total emissions.

(1) Testing Method for Determination of Emissions of Organic Material. The total organic material concentrations in an effluent stream shall be measured by a Flame Ionization Detector, or by other methods approved by the Agency according to the provisions of Part 1 of this Chapter.

(j) Compliance Dates.

(1) Every owner or operator of a new emission source shall comply with the standards and limitations of Rule 205 on the effective date of Part 2 of this Chapter.

(2) Every owner or operator of an existing emission source shall comply with the standards and limitations of Rule 205 by December 31, 1973.

Rule 206: Carbon Monoxide Emission Standards and Limitations.

- (a) Fuel Combustion Emission Sources With Actual Heat Input Greater Than 10 Million Btu Per Hour. No person shall cause or allow the emission of carbon monoxide into the atmosphere from any fuel combustion emission source with actual heat input greater than 10 million btu per hour to exceed 200 ppm, corrected to 50 per cent excess air.
- (b) Incinerators. No person shall cause or allow the emission of carbon monoxide into the atmosphere from any incinerator to exceed 500 ppm, corrected to 50 per cent excess air. Exception: This Rule 206(b) shall not apply to existing incinerators burning less than 2000 pounds of refuse per hour which are in compliance with Rule 203 (e)(3).
- (c) Petroleum and Petrochemical Processes. No person shall cause or allow the emission of a carbon monoxide waste gas stream into the atmosphere from a petroleum or petrochemical process unless such waste gas stream is burned in a direct flame afterburner or carbon monoxide boiler so that the resulting concentration of carbon monoxide in such waste gas stream is less than or equal to 200 ppm corrected to 50 per cent excess air, or such waste gas stream is controlled by other equivalent air pollution control equipment approved by the Agency according to the provisions of Part 1 of this Chapter.
- (d) Sintering Plants, Blast Furnaces and Basic Oxygen Furnaces. No person shall cause or allow the emission of gases containing carbon monoxide into the atmosphere from any sintering plant, from any blast furnace, or from any basic oxygen furnace to exceed a concentration of 200 ppm, corrected to 50 per cent excess air. Exception: This Rule 206(d) shall not apply to blast furnaces during abnormal movement of the furnace burden when it is necessary to relieve pressure for safety reasons.
- (e) Cupolas. No person shall cause or allow the emission of gases containing carbon monoxide into the atmosphere from any cupola with a manufacturer's rated melt rate in excess of 5 tons per hour, unless such gases are burned in a direct flame after burner so that the resulting concentration of carbon monoxide in such gases is less than or equal to 200 ppm corrected to 50 per cent excess air or such gas streams are controlled by other equivalent pollution control equipment approved by the Agency according to the provisions of Part 1 of this Chapter.

(f) Measurement Methods. Carbon monoxide concentrations in an effluent stream shall be measured by the Non-dispersive Infrared Method or by other methods approved by the Agency according to the provisions of Part I of this Chapter.

(g) Compliance Dates.

- (1) Every owner or operator of a new emission source shall comply with the standards and limitations of Rule 206 by the effective date of Part 2 of this Chapter.
- (2) Every owner or operator of an existing emission source shall comply with the standards and limitations of Rule 206 by December 31, 1973.

Rule 207: Nitrogen Oxides Emission Standards and Limitations.

- (a) New Fuel Combustion Emission Sources. No person shall cause or allow the emission of nitrogen oxides into the atmosphere in any one hour period from any new fuel-combustion emission source with an actual heat input equal to or greater than 250 million btu per hour to exceed the following standards and limitations:

- (1) for gaseous fossil fuel firing, 0.20 pounds per million btu of actual heat input;
- (2) for liquid fossil fuel firing, 0.30 pounds per million btu of actual heat input;
- (3) for dual gaseous and liquid fossil fuel firing, 0.30 pounds per million btu of actual heat input;
- (4) for solid fossil fuel firing, 0.7 pounds per million btu of actual heat input; and
- (5) for fuel combustion emission sources burning simultaneously any combination of solid, liquid and gaseous fossil fuels an allowable emission rate shall be determined by the following equation:

$$E = \left( \frac{0.3 (P_g + P_l) + 0.7 (P_s)}{P_g + P_l + P_s} \right) Q$$

where: E = allowable nitrogen oxides emission rate in pounds per hour;

$P_g$  = per cent of actual heat input derived from gaseous fossil fuel;

$P_l$  = per cent of actual heat input derived from liquid fossil fuel;

$P_s$  = per cent of actual heat input derived from solid fossil fuel;

Q = actual heat input derived from all fossil fuels in million btu per hour.

Note:  $P_l + P_s + P_g = 100.0$

- (b) Existing Fuel-Combustion Emission Sources in the Chicago and St. Louis MMA. No person shall cause or allow the emission of nitrogen oxides into the atmosphere in any one hour period from any existing fuel-combustion emission source with an actual heat input equal to or greater

than 250 million btu per hour, located in the Chicago and St. Louis (Illinois) major metropolitan areas to exceed the following limitations;

- (1) for gaseous and/or liquid fossil fuel firing, 0.3 pounds per million btu of actual heat input;
- (2) for solid fossil fuel firing, 0.9 pounds per million btu of actual heat input;
- (3) for fuel combustion emission sources burning simultaneously any combination of solid, liquid and gaseous fuel the allowable emission rate shall be determined by the following equation:

$$E = \left( \frac{0.3 (P_g + P_l) + 0.9 (P_s)}{P_g + P_l + P_s} \right) Q$$

E = allowable nitrogen oxides emission in pounds per hour;

$P_g$  = per cent of actual heat input derived from gaseous fossil fuel;

$P_l$  = per cent of actual heat input derived from liquid fossil fuel;

$P_s$  = per cent of actual heat input derived from solid fossil fuel;

Q = actual heat input derived from all fossil fuels in million btu per hour.

Note:  $P_l + P_s + P_g = 100.0$

- (c) Exceptions to Rule 207 (b). Paragraph (b) of this Rule 207 shall not apply to existing fuel combustion sources which are either cyclone fired boilers burning solid or liquid fuel, or horizontally opposed fired boilers burning solid fuel.

(d) Nitric Acid Manufacturing Processes.

- (1) New Weak Nitric Acid Processes. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any new weak nitric acid manufacturing process to exceed the following standards and limitations:

- (A) 3.0 pounds of nitrogen oxides (expressed as NO<sub>2</sub>) per ton of acid produced (100 per cent acid basis);

- (B) visible emissions in excess of 5 per cent opacity;
  - (C) 0.1 pounds of nitrogen oxides (expressed as NO<sub>2</sub>) per ton of acid produced (100 per cent acid basis) from any acid storage tank vents.
- (2) Existing Weak Nitric Acid Processes. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any existing weak nitric acid manufacturing process to exceed the following standards and limitations:
- (A) 5.5 pounds of nitrogen oxides (expressed as NO<sub>2</sub>) per ton of acid produced (100 per cent acid basis);
  - (B) visible emissions in excess of 5 per cent opacity;
  - (C) 0.2 pounds of nitrogen oxides (expressed as NO<sub>2</sub>) per ton of acid produced (100 per cent acid basis) from any acid storage tank vents.
- (3) Concentrated Nitric Acid Processes. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any concentrated nitric acid manufacturing process to exceed the following standards and limitations:
- (A) 3.0 pounds of nitrogen oxides (expressed as NO<sub>2</sub>) per ton of acid produced (100 per cent acid basis);
  - (B) 225 ppm of nitrogen oxides (expressed as NO<sub>2</sub>) in any effluent gas stream emitted into the atmosphere;
  - (C) visible emissions in excess of 5 per cent opacity.
- (4) Nitric Acid Concentrating Processes. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any nitric acid concentrating process to exceed the following limitations:
- (A) 3.0 pounds of nitrogen oxides (expressed as NO<sub>2</sub>) per ton of acid produced (100 per cent acid basis);
  - (B) visible emissions in excess of 5 per cent opacity.

(e) Industrial Processes: General

- (1) New Industrial Processes. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any new process producing products of organic nitrations and/or oxidations using nitric acid to exceed the following standards and limitations:
    - (A) 5.0 pounds of nitrogen oxides (expressed as NO<sub>2</sub>) per ton of nitric acid (100 per cent acid basis) used in such new process.
    - (B) visible emissions in excess of 5 per cent opacity.
  - (2) Existing Industrial Processes. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any existing process producing products of organic nitrations and/or oxidations using nitric acid to exceed 10.0 pounds of nitrogen oxides (expressed as NO<sub>2</sub>) per ton of nitric acid (100 per cent acid basis) used in such process.
  - (3) Exemption. Paragraphs (e)(1) and (e) (2) of this Rule 207 shall not apply to any industrial process using less than 100 tons of nitric acid (100 per cent acid basis) annually or which produces less than 1 ton of nitrogen oxides (expressed as NO<sub>2</sub>) per year.
- (f) Measurement Method. Measurement of nitrogen oxides shall be according to the Phenol Disulfonic Acid Method as published in 36 Fed. Reg. 15718; Method 7.
- (g) Compliance Dates.
- (1) Every owner or operator of a new emission source shall comply with the standards and limitations of Rule 207 by the effective date of Part 2 of this Chapter.
  - (2) Except as otherwise provided in paragraph (g)(3) of this Rule 207, every owner or operator of an existing emission source shall comply with the standards and limitations of Rule 207 by December 31, 1973.
  - (3) Every owner or operator of an existing coal fired fuel combustion emission source shall comply with the applicable standards and limitations of Rule 207 by May 30, 1975.

Rule 208: Compliance Dates.

Notwithstanding the issuance of an Operating Permit, no person shall cause or allow the operation of an emission source which is not in compliance with the standards and limitations set forth in this Part 2 after December 31, 1973, unless otherwise provided by a compliance date specifically set forth for a particular category of emission source in this Part 2.

Part III: Air Quality Criteria

APPENDIX C  
AIR ENFORCEMENT CHECKLIST

## AIR ENFORCEMENT CHECKLIST

## I. Source Identification

- A. Name:
- B. Address:
- C. Air Quality Control Region:
- D. Pollutant(s):
- E. Type of Operation:

## II. Type of Violation:

- A. Currently enforceable regulation

Citation and Designation:

- B. Increment within regulation

Citation (attach copy) and designation:

- C. Compliance schedule

- 1. Regulations covered (citation and designation):

- 2. Federal approval status (attach copy):

This schedule was approved/promulgated by EPA on \_\_\_\_\_

(\_\_\_\_ F.R.\_\_\_\_\_) under the provisions of 40 C.F.R. 51.6/51.15.

III. Total Emissions (each pollutant)      Present      After Compliance Achieved

IV. Previous Attempts at Compliance and Contacts with Source, if any:

V. Prior Local, State, or Federal Enforcement Actions:

VI. State/local discussion of Proposed Federal Enforcement Action

A. Name and title of highest official with whom discussed:

B. Attitude of person named in A., above toward Federal action:

VII. Notifications

Source:



State:

Local:

PART II

DATA TO SUPPORT VIOLATIONS

I. Source Identification

A. Name of Company:

B. Specific source within cited facility:

II. Requirement(s) violated by source:

III. Evidence supporting violation

A. Emission Factors

1. Calculated emissions

a. without controls:

b. with controls (known/estimated):

2. Allowed emissions

3. Names of individuals who can testify to the above information:

B. Smokereadings

1. Description of smokereading evidence:

2. Names of individuals who can testify to the above information:

C. Stack sampling

1. Description of stack sampling evidence:

2. Names of individuals who can testify to the above information:

D. Evidence indicating missed increment, if applicable:

IV. Identify and explain any factors which may affect the persuasive impact of the evidence:

- C. If the source has proposed an alternative course of action to the one described in A. above, describe and evaluate the proposed alternative, (attach copy of proposal, if available):

II. Estimated cost of remedial action

Estimated cost of action described in I.A and I.C above if known (give basis for estimate and attach study, if any):