

MINUTE ORDER NO. 81-13

The 111(d) Plan
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FINDINGS:

Section 111(d) of the Clean Air Act, as amended, requires states to develop plans to control emission from any existing source for any air pollutant for which air quality criteria have not been issued, or which pollutant is not otherwise controlled under the Clean Air Act, but to which a standard of performance would apply if such existing source were a new source.

The EPA has identified primary aluminum plants as a category of facilities which are to be regulated as required by Section 111(d) of the Clean Air Act. Therefore, a plan entitled, "Plan for the Control of Designated Pollutants" - 111(d) Plan, has been developed for primary aluminum plants. In the Plan are provisions for the amendment of Section 8.1 of the regulations of the Arkansas Plan of Implementation for Air Pollution Control to add a Subsection (IV) for the purpose of controlling fluoride emissions from primary aluminum plants.

All applicable public participation requirements, if any, with respect to this Plan have been complied with.

ORDER:

Section 8.1 of the Arkansas Plan of Implementation for Air Pollution Control is amended by adding a Subsection IV for the purpose of controlling fluoride emission from primary aluminum plants.

COMMISSIONERS

BZ
DB
SW
AK
Ad. for M. P. M.
Form 7010 for Bill Wright
JS

Jim Wright
CHAIRMAN

SUBMITTED BY Wilson Tolefree DATE PASSED 3-27-81

PLAN FOR THE CONTROL OF DESIGNATED POLLUTANTS
(111(d) PLAN)

April 1, 1981

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

PLAN FOR THE CONTROL OF DESIGNATED POLLUTANTS
(111(d) PLAN)

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PLAN FOR THE CONTROL OF DESIGNATED POLLUTANTS
(111(d) PLANS)

I. Introduction

(a) Purpose of Plan:

Section 111(d) of the Clean Air Act as amended in 1977, requires the states to develop plans to control emissions from any existing source for any air pollutant for which air quality criteria have not been issued, or which is not otherwise controlled under the Act, but to which a standard of performance would apply if such existing source were a new source.

Emission standards for designated facilities are legally enforceable regulations setting forth allowable emission rates into the atmosphere or the requirement that specific equipment be used to limit emissions. Ambient standards for designated pollutants are not the goal of the 111(d) process.

(b) Affected Facilities:

The following are categories of facilities which are to be regulated as required by 111(d) of the Clean Air Act and their identification as to emitting health or welfare related pollutants. The date of adoption of regulations to control the affected facilities within the state is also listed:

<u>Date Regulations Were Adopted</u>	<u>Type Facility</u>	<u>Health-Welfare Related</u>	<u>Pollutant</u>
April 1, 1981	Primary Aluminum Plants	Welfare	Fluorides

(c) Plan Modifications:

As more designated facilities and pollutants are identified, appropriate sections of this plan shall be revised as follows:

(1) Section I(b) shall be revised to list the added facilities and the dates of regulation adoption.

(2) Attachments shall be added to Exhibit II to show that the requirements of public participation are met.

(3) Section IV(b) shall be revised to indicate the appropriate part of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control which contains the regulations for any designated facility.

(4) An attachment shall be added to Exhibit IV containing the specific emission standard or equipment specification for a designated facility. This attachment shall include any required compliance schedule.

(5) Section IV(c) shall be revised to justify any exception to the emission rate specified in the guidelines for any designated facility.

(6) Section IV(d) shall be revised to show the final compliance dates of added designated facilities.

(7) Section V(c) shall be revised to show the correlation between the emission rates of a designated facility at the time of regulation adoption and at the rate at the time of final compliance.

(8) An attachment shall be added to Exhibit V to list the emissions inventory for the source containing the designated facility. Such

inventory shall be compiled according to the directions of Appendix D (40 FR 53349 November 17, 1975).

II. Public Participation

Public hearings concerning the control of designated facilities shall be conducted in a manner directed by 40 CFR 60.23 and records of such hearings shall be available for public inspection for a period of two years following the dates of such hearings.

After adoption of standards for a designated facility, attachments will be added to Exhibit II to show that the required hearing was held in accordance with the above referenced directions as well as a list of witnesses appearing at the hearing and their affiliations. Additionally, a brief summary of each presentation or written submission relevant to the plan shall be submitted as part of Exhibit II.

III. Legal Authority

The Arkansas Commission on Pollution Control and Ecology is authorized under Part II of the Arkansas Water and Air Pollution Control Act (Ark. Stat. Ann. §82-1901, et. seq.) to promulgate regulations for the control of any air contaminant which has the potential to adversely affect the health or welfare of the citizens of the State or any area of the State.

Legal authority has been established by promulgation of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, the provisions of which, in part, are also applicable to the control of designated pollutants.

All legal authority for the purpose of making inspections, adopting emission limitations, requiring compliance schedules, seeking injunctive relief, requiring emissions data submittal, requiring record keeping, conducting tests, requiring emissions monitoring and making emission data available to the public, are provided for in the above mentioned Statute. The longstanding existence of the Arkansas Air Pollution Control Code and the Regulations of the Arkansas Plan of Implementation for Air Pollution Control are a demonstration of this authority. Emission data is also available to the public under the Arkansas Freedom of Information Act (Act 93 of 1967, amended by Act 1201 of 1976 and Act 652 of 1977). A copy of this Act is submitted under Exhibit III.

No additional legal authority is necessary for the adoption of emission limitations for designated pollutants and no delegation of authority for administering regulations adopted for designated pollutants shall be granted by the Commission on Pollution Control and Ecology to any agency other than the Department of Pollution Control and Ecology. A copy of the Arkansas Statute is submitted under Exhibit III.

IV. Emission Standards and Compliance Schedules

(a) Emission Standards:

Designated pollutants are identified as either potentially harmful to health or potentially harmful to the public's welfare. Emission limitations suggested in EPA's guideline documents are intended to maintain concentrations of the pollutants well below that which would be harmful.

Emission standards shall be adopted by the Commission which are in

keeping with guidance issued pursuant to Section 111(d) of the Clean Air Act.

(b) Regulations for Designated facilities:

The regulations and compliance schedules limiting emissions from designated facilities are part of Section 8 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control. The regulations are identified by subsection below:

8.1 Designated Facilities

8.1(c) (iv) Primary Aluminum Plants

The regulations and compliance schedules for facilities regulated by Subsection 8.1 are submitted as part of Exhibit IV.

(c) Exceptions to Guidelines Emission Rate Recommendations:

An exception to the guideline limits for fluoride emissions from primary aluminum plants is granted in the regulations to Reynolds Metals Company of Arkadelphia, Arkansas, and Reynolds Metals Company of Jones Mill, Arkansas. The primary aluminum plant operated by Reynolds Metals at Arkadelphia was constructed in 1952 and has an annual production capacity of 68,000 tons, making it one of the smallest domestic aluminum plants. The plant is located in a sparsely populated rural community, and is a major employer in Clark County. The plant has an annual payroll of 14.5 million dollars and the total economic impact estimated at 45 million dollars annually. The small capacity and older cell design along with higher than average industry power costs make this plant subject to closure if economics and/or operating costs worsen. Loss of such an industry would have a significant adverse impact on the economy of the state and an even greater impact on the economy of the local

community. Removal of existing hooding, fume ducts, and removal or major modification of present wet scrubber systems while keeping the plant in operation and continuing to effectively operate scrubbers will necessitate retrofitting on a cell outage basis. Reynolds owns approximately 2,900 acres around the plant site, much of which is leased to local farmers for planting soybeans, rice, and wheat. These crops are only moderately susceptible to damage by fluorides. During the 27 years that Reynolds at Arkadelphia has been in operation, there has been no significant environmental impact due to fluoride emissions.

The guideline document gives 30 months as the time needed to retrofit a primary aluminum plant. However, in order for Reynolds to have sufficient time for engineering, financing and retrofitting, the time period is lengthened to 48 months.

Reynolds at Jones Mill presently operates 692 Niagara-type prebake reduction cells. The plant started operation in 1942 and was acquired by Reynolds in 1946. It is labor intensive compared to more modern plants employing newer cell design and also incurs higher power costs than the industry average. There is no significant impact on the area surrounding the plant by fluoride emissions. Retrofitting hooding and scrubbing equipment must be done while keeping the plant in operation to be economically feasible. Due to the extreme age of the facility and cell design, retrofitting fume control equipment requires extensive modification of the cell superstructures. Superstructure modification will require approximately three and one-half years. It is felt that a four year period is reasonable and necessary to complete the installation of all phases of the fume control project. The total cost of compliance

for both Reynolds facilities is in excess of ninety (90) million dollars.

The recommended guideline collection and removal efficiencies when applied to both Reynolds facilities are more than twice as restrictive as the New Source Performance Standards presently in effect for primary aluminum plants (40 CFR 60.190 Subpart S). To apply such standards to plants of this age and type without any considerations for engineering design and difficulties in retrofitting, it would be tantamount to issuance of a closing order to both Reynolds facilities.

(d) Compliance Schedules for Designated Facilities:

Pending EPA approval of plan by August 1, 1981, the following industries shall be in full compliance by the dates shown. Detailed compliance schedules for industries which are allowed more than 12 months from the effective date of the applicable regulations are included in the regulations and submitted with the 111(d) plan under Exhibit IV.

<u>Industry</u>	<u>Final Compliance Date</u>
Primary Aluminum Plants	
(CSN 100004) Reynolds Metals Company Arkadelphia, Arkansas	August 1, 1985
(CSN 300030) Reynolds Metals Company Jones Mill, Arkansas	August 1, 1985

V. Emission Inventories, Source Surveillance and Reports

(a) 40 CFR 60.25 (d) Requirements

The requirements of 40 CFR 60.25(d) are provided by Section 7 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control. Although Section 82-1937 of the Arkansas Water and Air Pollution

Control Act has been disapproved by EPA as limiting emissions disclosure to the public, an Attorney General's opinion, No. 75-37, states that Section 82-1937 cannot be interpreted to deny the public access to emissions information and that the Department must make emissions information available under the Arkansas Freedom of Information Act.

(b) Reporting Requirements

Section 7 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control requires sources to report all such information as the Director may reasonably require. The Department shall submit reports to EPA for the periods required by 40 CFR 60.25(e) and shall include the information required by 40 CFR 60.25(f).

(c) Emissions Inventory:

A detailed emissions inventory prepared according to Appendix D is attached under Exhibit V. Summaries listed below show each designated facility with emissions at adoption date for the designated pollutant correlated with the adopted standards as the allowable emission rate.

Primary Aluminum Plants

Adoption Date - April 1, 1981
Effective Date - August 1, 1981
Compliance Date - August 1, 1985

<u>Industry</u>	<u>Emission Rate-1981</u>	<u>Emission Rate-1985</u>
(CSN 100004) Reynolds Metals Company Arkadelphia, Arkansas	55 lb. F/Ton Al Produced	10 lb. F/Ton Al Produced
(CSN 300030) Reynolds Metals Company Jones Mill, Arkansas	44 lb. F/Ton Al Produced	8.5 lb. F/Ton Al Produced

AMENDMENT TO THE REGULATIONS OF THE ARKANSAS PLAN
OF IMPLEMENTATION FOR AIR POLLUTION CONTROL

Section 8.1 of the Regulations is amended as follows by adding a subsection (iv) for the purpose of controlling fluoride emissions from primary aluminum plants:

(iv) Primary Aluminum Plants

CSN 100004 Reynolds Metals Company of Arkadelphia, Arkansas

No later than forty-eight (48) months after approval of this plan by the Environmental Protection Agency, the primary aluminum plant operated by Reynolds Metals Company of Arkadelphia, Arkansas, shall attain the following standards of removal and collection efficiencies:

- (1) primary collection efficiency of 85% and removal efficiency of 95% from center worked prebaked cells or a combination of these efficiencies resulting in equivalent fluoride removal;
- (2) primary collection efficiency of 75% and removal efficiency of 95% from side worked prebaked cells or a combination of efficiencies resulting in equivalent fluoride removal;
- (3) primary collection efficiency of 80% and removal efficiency of 95% from the horizontal stud Soderburg cells or a combination of efficiencies resulting in equivalent fluoride removal.
- (4) When total fluoride emissions to the atmosphere do not exceed a floor level of 10 pounds of fluorides (F) per ton of aluminum produced (TAP), the plant is exempt from the above collection and scrubbing efficiencies.

CSN 300030 Reynolds Metals Company of Jones Mill, Arkansas

No later than forty-eight (48) months after approval of this plan by the Environmental Protection Agency, the primary aluminum plant operated by Reynolds Metals Company of Jones Mill, Arkansas, shall attain the following standards of removal and control efficiencies:

- (1) primary collection efficiency of 85% and removal efficiency of 95% from the center worked prebaked cells or a combination of efficiencies resulting in equivalent fluoride removal.
- (2) When total fluoride emissions to the atmosphere do not exceed a floor level of 8.5 pounds of fluorides (F) per ton of aluminum produced (TAP), the plant is exempt from the

above collection and scrubbing efficiencies.

- (A) Compliance testing, which may be required as provided by Section 7(a) shall be performed using EPA methods, testing procedures, and data reduction as set forth in 40 CFR 60.8. Testing shall be done as required by EPA Reference Methods 13A or 13B as published in the Federal Register or by such alternative methods and procedures as may be approved by the Director.
- (B) All primary aluminum plants specified in this subsection 8.1(c) (iv) shall meet the following increments of progress as such increments relate to the installation of equipment which will enable the attainment of the emission standard by the final compliance date.

<u>ACTION</u>	<u>DATE</u>
(1) Submit to the Department of Pollution Control and Ecology, the control plan for the facility.	May 1, 1982
(2) Let contracts for emission control systems or process modifications or issue purchase orders for the component parts to accomplish emission control or process modifications.	December 1, 1982
(3) Initiate on-site construction or installation of emission control equipment or process change.	January 1, 1983
(4) Complete installation or construction and commence operation of the facility with emission control systems in place and functioning.	June 1, 1985
(5) Submit to the Department of Pollution Control and Ecology, certification of compliance based upon a sampling program approved by the Director.	August 1, 1985

The above cited dates are based upon submission of this plan on April 1, 1981, with approval by EPA on August 1, 1981. Forty-eight months later, or August 1, 1985, final compliance will be achieved.

- (C) 1. Nothing in this sub-section (iv) shall prevent the Director

from approving an alternative compliance schedule for any primary aluminum plant provided he finds that the application of the compliance schedule in sub-section (iv) (B) would be infeasible or impractical.

2. Nothing in this part shall prevent the owner or operator of a primary aluminum plant from submitting to the Director an alternative compliance schedule provided:
 - (a) the proposed alternative compliance schedule is submitted within nine months of EPA's approval of the Arkansas 111(d) Plan for primary aluminum plants; and
 - (b) the final control plans for achieving compliance with this sub-section are submitted simultaneously; and
 - (c) the alternative compliance schedule contains the same increments of progress as the schedule for which it is proposed; and
 - (d) sufficient documentation and certification from appropriate suppliers, contractors, manufacturers or fabricators are submitted by the owner or operator of the primary aluminum plant to justify the dates proposed for the increments of progress.
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PROMULGATED this 27th day of March, 1981
By ORDER OF THE COMMISSION ON POLLUTION CONTROL AND ECOLOGY

By *Jim Brooks*
Chairman

ATTEST:

Jarrell E. Southall
Jarrell E. Southall
Director

APPROVED:

Frank White
Frank White, Governor
State of Arkansas