

ARKANSAS DEPARTMENT OF  
POLLUTION CONTROL AND ECOLOGY

LOCATION - SUBJECT: SIP Revision

MINUTE ORDER NO. 81-30

for Lead Sampling Sites  
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FINDINGS:

The Commission on Pollution Control and Ecology previously approved an addition to the State Implementation Plan to attain and maintain the National Ambient Air Quality Standard for lead. As part of the approved plan, the Department was required to establish two permanent monitoring sites for lead in the Little Rock-North Little Rock metropolitan area. These sites are located at 4520 Lynch Drive in Rose City and 620 East Markham Street in Little Rock. Upon approval of these sites by the Environmental Protection Agency, they will be made a part of the State and Local Air Monitoring Stations (SLAMS).

This minute order, if approved by the Commission, will be submitted to the Environmental Protection Agency as a formal revision to the State Implementation Plan. Proper public notice procedures were followed, with a public hearing held on March 28, 1981, with a ten (10) day period allowed after the hearing for public comment.

ORDER:

That this minute order, which establishes two (2) permanent monitoring sites for lead in the Little Rock-North Little Rock metropolitan area, be approved and submitted to the Governor for his signature, and thereafter submitted to the Regional Administrator, Environmental Protection Agency as a formal revision to the Arkansas Plan of Implementation for Air Pollution Control.

COMMISSIONERS

*[Handwritten signatures of commissioners]*

*[Signature of J. Brooks]*  
CHAIRMAN

SUBMITTED BY Wilson Tolefree

DATE PASSED 4/1/81

THE ARKANSAS PLAN OF IMPLEMENTATION TO ATTAIN AND MAINTAIN  
THE NATIONAL AMBIENT AIR QUALITY STANDARD FOR LEAD

(A Supplement to the Arkansas Plan of Implementation for Air Pollution Control)

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY  
801 NATIONAL DRIVE  
LITTLE ROCK, ARKANSAS 72209

January 1, 1981

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THE ARKANSAS PLAN OF IMPLEMENTATION TO ATTAIN AND MAINTAIN  
THE NATIONAL AMBIENT AIR QUALITY STANDARD FOR LEAD

Introduction

On October 5, 1978, the Environmental Protection Agency adopted a national ambient air quality standard for lead of 1.5 micrograms per cubic meter, arithmetic mean averaged over a calendar quarter. Section 110 of the Clean Air Act as amended August, 1977, requires that each state adopt and submit a plan for the implementation, maintenance and enforcement of the standard in all areas of the state.

The following parts of this plan are intended to demonstrate that the state has the regulatory authority and enforcement programs necessary to attain and maintain the standard for lead. Since there are no existing stationary sources with significant emission rates, the attainment strategy is dependent on the federal program to limit lead in gasoline. This should be sufficient to attain the standard at the one site showing non-attainment. The maintenance strategy relies on the existing new source review and permitting procedures of the Department as well as the federal program to reduce the lead content of gasoline.

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

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control equipment related. Any permit issued to a source using extraordinary engineering design must follow normal permit procedures. Furthermore, the proposed source must

- (1) undertake stack sampling within 60 days of operation to determine equivalency to BACT
- (2) cease operations and make corrections if control technique is not equivalent to BACT
- (3) conform to all applicable regulations of the State of Arkansas.

Control Strategy: Lead Point Sources

Within the State of Arkansas as of the date of approval of this Plan, there are no primary or secondary lead smelters; primary copper plants, lead gasoline additive plant; lead-acid storage battery manufacturing plants with a daily production of 2000 or more batteries; or any stationary source that emits five (5) or more tons of lead per year.

Control Strategy for Areas in the Vicinity of Ambient Monitors Which Record Exceedences of the Lead Standard

Ambient Air Quality Data

Analysis of valid ambient air quality data recorded since January 1, 1974, shows exceedences of the lead standard of  $1.5 \mu\text{g}/\text{m}^3$  quarterly arithmetic mean at only one monitoring site in the State at North Little Rock (SAROAD

# 041880001F01). As shown in the Summary of Air Quality Data (Table 1), the highest quarterly average lead concentration for this site was 1.76 mg/m<sup>3</sup> as recorded in the fourth quarter of 1977.

#### Monitor Influences

Within the vicinity of the North Little Rock site, there are no point sources of lead that could contribute to the violation of the standard. Thus, the violation can only be attributed to vehicle exhaust emissions.

In order to establish the reduction requirements necessary to attain the NAAQS at the North Little Rock monitor, 40 CFR 51.85 requires that the rollback reduction model be used.

The percent reduction required is defined as:

$$\% \text{ reduction required} = \frac{\text{Design Value} - \text{Ambient Standard}}{\text{Design Value}} \times 100$$

Using the value of 1.76 µg/m<sup>3</sup> for the fourth quarter of 1977

$$\% \text{ reduction required} = \frac{1.76 \mu\text{g}/\text{m}^3 - 1.50 \mu\text{g}/\text{m}^3}{1.76 \mu\text{g}/\text{m}^3} \times 100$$

$$\% \text{ reduction required} = 14.7\%$$

Since there are no stationary lead sources within the vicinity of the North Little Rock site, the required reduction will be implemented by the federal program to phase out the use of lead in gasoline. Vehicle lead

### Compliance Schedules

As of the date of approval of this Plan, all stationary sources of lead within the State are small and do not have the potential to cause the NAAQS for lead to be exceeded. Therefore, no compliance schedules are necessary under this plan.

### Air Quality Surveillance

A lead air quality surveillance network shall be established by the Arkansas Department of Pollution Control and Ecology in response to and in accordance with the provisions of 40 CFR 51.17(b) no later than two years after approval of this plan by the Administrator of the EPA. A full description of each monitor and its location will be on file for public inspection between the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday excluding State holidays at the Arkansas Department of Pollution Control and Ecology, 8001 National Drive, Little Rock, Arkansas 72209.

#### 1. Location of Monitors

Using existing total suspended particulate monitors where feasible, two permanent lead ambient air quality monitoring stations will be established and operational no later than two years after the date of approval of this plan by the Administrator of the EPA. The monitors will be located in the Little Rock - North Little Rock metropolitan area.

These monitors will become part of the National Air Monitoring

b. Specifications for Neighborhood Site

- 1) located in an area of high traffic and population density but at least fifteen meters from the nearest roadway (over 2,000 vehicles per day).
- 2) located at or near children play areas or schools where possible.
- 3) located as close to the ground level as practical, but no greater than five meters above ground level.

New Source Review

Through the implementation of the State's permit procedure, all new source construction and modification of existing sources are subject to review by Department staff to determine if an exceedence of the ambient air standards may result. If a permit application for a new source or modification indicates that the proposed source may violate the standard, no permit shall be issued until such time that adequate controls are proposed for each such installation.

Under Part II of the Arkansas Water and Air Pollution Control Act (Ark. Stat. Ann. § 82-1901, et. seq.), specifically Sections 82-1935(n) and 82-1938(b), the Commission on Pollution Control and Ecology can deny a permit to a source if it is shown that such a source will violate an ambient air standard. The Commission can also file suit to seek injunctive relief to

### Resources

The Department's existing resources for new source review, ambient monitoring, surveillance, etc., which are dedicated to the maintenance of the NAAQS shall be adequate for the predicted additional requirements of this supplement to the SIP.

### Intergovernmental Cooperation

It is the intent of the Department of Pollution Control and Ecology to cooperate with any governmental agency to assure that the ambient air standard is not violated both within the State and any interstate air quality control region.

APPENDIX I

BASELINE EMISSION INVENTORY

A baseline emission inventory is not required for this plan. As of the date of approval of this plan, there are no stationary sources which emit five or more tons of lead per year.

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## APPENDIX III

### SUMMARY OF AIR QUALITY DATA

The following is a summary of lead air quality data measured since 1974. The data was analyzed in accordance with the approved methods described in 40 CFR 50 Appendix G. Five monitoring sites were selected: Fort Smith, Jonesboro, Little Rock, Rose City and West Memphis.

Representative collection is considered to be 75% of the total particulate samples per quarter. Particulate samplers run every sixth day, generally 60 or 61 samples are collected in a year. Due to voids, which occur when the samplers are run for either too short or too long a period of time, power failures, or interferences due to the severity of the past two winters, collection efficiency was less than 75% for various quarters at several of the sampling sites. However, the data that was collected is considered valid.

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APPENDIX V

CALCULATIONS

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$$e_{1979} = \frac{(0.155)(20,500)}{0.866} [0.05(0.0278) + 2.1(0.0112)]$$

$$= 91.398 \text{ grams/day}$$

$$= 0.036 \text{ tons/year}$$

$$e_{1980} = \frac{(0.155)(19,600)}{0.866} [0.05(0.0354) + 1.6(0.0116)]$$

$$= 71.319 \text{ grams/day}$$

$$= 0.028 \text{ tons/year}$$

$$e_{1981} = \frac{(0.155)(19,000)}{0.866} [0.05(0.0429) + 1.2(0.012)]$$

$$= 56.264 \text{ grams/day}$$

$$= 0.022 \text{ tons/year}$$

$$e_{1982} = \frac{(0.155)(19,000)}{0.866} [0.05(0.0502) + 1.3(0.0124)]$$

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