

III. Control Strategy

A. A statewide emissions inventory was performed by the Technology Division of the GCA Corporation for the year 1970 to give a basis for control strategies outlined in this implementation plan. Tables I, II, and III in Appendix G indicate emission totals for sulfur oxides, particulates, carbon monoxide, nitrogen dioxide, and hydrocarbons for the three Wyoming Air Quality Control Regions. A more detailed compilation of points and area sources and their respective emissions is available for inspection in the Division of Health and Medical Services at the State Office Building in Cheyenne.

B. Tables I-A, I-B, and I-C in Appendix G present a summary of air quality data gathered from all sampling locations in Wyoming. Results obtained from the sampling stations near Laramie, Casper, Cheyenne, and Yellowstone and Teton Parks were used to determine the applicable background concentrations. An annual geometric mean of 30 micrograms per cubic meter of air is used as the background particulate concentration for the three Wyoming Air Quality Control Regions. All sampling data are considered valid and applicable to this strategy.

C. Emission data were related to air quality data according to the procedure set forth in Section 420.13 (e) of the August 14, 1971, Federal Register, Volume 36, No. 158. The proportional model method is used to calculate degrees of needed improvement of air quality necessary to attain the national secondary standard. The following equation is employed for this purpose:

$$\frac{A-C}{A-B} \times 100 = \text{percent emissions reduction needed}$$

A = Existing air quality at the location having the highest measured or estimated concentration in the region

B = Background concentration

C = National standard

The sampling location recording the highest 24 hour average concentration is shown in Tables I-A, I-B, and I-C in Appendix G. The national ambient air quality standards to be met are the secondary ambient air quality standards for particulates prescribed in Section 410.7 of the April 30, 1971, Federal Register, Volume 36, No. 84. These limitations are as follows:

- (1) 60 micrograms per cubic meter - annual geometric mean
- (2) 150 micrograms per cubic meter of ambient air. Maximum 24 hour concentrations not to be exceeded more than once per year.

Table I shown below was developed using the technique on the previous page to relate emissions to air quality for the two Air Quality Control Regions having a Priority II classification. The 1969 survey data from Laramie was used instead of the 1970 National Air Sampling Network levels, since the Cheyenne City station information is somewhat more indicative of background than representative of the four-county area. This procedure is also necessary to agree with the priority designation which considers Laramie emissions as a basis for the Priority II classifications.

Table I

Suspended Particulates Reductions Required
Wyoming Air Quality Control Regions

AQCR	Most Recent A.Q. Data µg/m ³	Natl. Secondary Std. Annual G.M. µg/m ³	% Reduction Required	1970 Emissions (tons)	1975 Allowable Emissions (tons)
Cheyenne	429 ⁽¹⁾	60	93	31,900	2,500
Gasper.	58 ⁽²⁾	60	--	26,500	26,500

(1) 1969 source-oriented survey data

(2) 1970 NASN data

(3) Background - 30 micrograms per cubic meter
for all regions

~~It is the intent of the State of Wyoming to achieve the secondary standards for particulates as soon as practicable but not later than June 30, 1973. In regions where the concentrations are already below the levels of secondary standards, it is the intention of the State of Wyoming to comply with Section 410.2 (c), of the April 30, 1971, Federal Register, Volume 36, No. 84, by not allowing significant degradation of the existing air quality.~~

Replaced

All three air quality control regions are classified Priority III for sulfur oxides, carbon monoxide, photochemical oxidants, and nitrogen oxides. The State of Wyoming is not required to develop a control strategy for these pollutants according to Section 420.14, Federal Register, July 29, 1971. The State of Wyoming supports the federal motor vehicle program as evidenced by Section 11, Chapter III, Wyoming Air Quality Standards and Regulations.

D. Table I indicates that particulate emissions in the Cheyenne Air Quality Control Region requires a 93% reduction. It should be understood that the data used in this calculation cannot be applied to the entire region and largely represents the effects of a single source at Laramie. The reduction in emissions is not necessary for the entire region and the main

THE STATE  OF WYOMING

Department of Health and Social Services

Division of Health and Medical Services

STATE OFFICE BUILDING CHEYENNE, WYOMING 82001

May 29, 1973

John A. Green, Regional Administrator
Environmental Protection Agency - Region VIII
Suite 900, 1860 Lincoln Street
Denver, CO 80203

Dear Mr. Green:

A public meeting of the Wyoming Air Resources Council was held in Room 303, Engineering Building, University of Wyoming, beginning at 3:00 pm on Thursday, May 24, 1973.

This meeting was held as described by the attached affidavit and the Council unanimously approved the following revisions in Wyoming's Implementation Plan for air quality:

Section III, Control Strategies, Page 6. The paragraph following Table I is replaced in its entirety by the following paragraph:

"The state of Wyoming will require compliance with particulate standards as soon as practicable but not later than January 31, 1974, except for facilities where other final compliance dates have been approved by the Administrator of the Environmental Protection Agency. In regions where concentrations are already below the levels of secondary standards, it is the intention of the State of Wyoming to comply with Section 410.2 (c), of the April 30, 1971, Federal Register, Volume 36, No. 84, by not allowing significant degradation of existing air quality."

Section IV, Compliance Schedules, Page 9, Paragraph G. is replaced in its entirety by the following paragraph:

G. "Any compliance schedule or revision thereof extending over a period of more than one year from the date of its adoption by the Wyoming Air Resources Council and requiring compliance 18 or more months from the date of approval or promulgation of an applicable control strategy by the Administrator of the EPA shall provide for legally enforceable increments of progress toward compliance by the affected source. Such increments shall be sufficiently detailed to permit close and effective supervision of progress by the source toward timely compliance."

The enclosed compliance schedules submitted by the Town of Lovell and the Federal Bentonite Company were considered and accepted for forwarding to

John A. Green

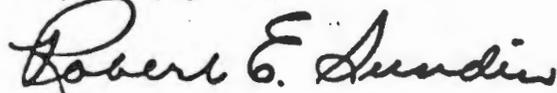
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May 29, 1973

the Environmental Protection Agency. No statements were made regarding these schedules.

The minutes of this public meeting also reflect Council action to approve amending Page 2 of the acceptance of all previous schedules to recognize such schedules as revisions to the implementation plan. As such, they are submitted pursuant to 40 CFR Section 51.6. This action was taken to satisfy requirements outlined in Mr. Dickstein's letter received in our office on April 23, 1973.

Very truly yours,



Robert E. Sundin
Director
Air Quality Section

RES:ak
Enclosures

IMPLEMENTATION PLAN FOR LEAD

Introduction

On October 5, 1978, EPA promulgated ambient Air Quality Standards for lead. This promulgation triggered a requirement for states to develop, adopt, and submit to EPA, State Implementation Plans (SIP) for attaining and maintaining the ambient lead standard.

Wyoming analyzed hi-volume sampler filters exposed in 1977/1978 at Casper, Cheyenne, and Rock Springs to determine lead concentrations. These three sites were selected because they represent areas where the ambient air quality is expected to be most adversely affected by automobile emissions which contain lead. There are no major point sources of lead emissions in the state and therefore the primary source of lead is the automobile. These analyses show that the ambient lead concentrations are well below the ambient standard of $1.5 \mu\text{g}/\text{m}^3$ quarterly average. The highest concentration measured was about one-half of the standard and occurred in Rock Springs.

Based upon the fact that no major point sources of lead exist in Wyoming and that the ambient concentrations were well below the standard, EPA indicated that Wyoming should not be required to develop a SIP. However, in recent months EPA has advised that the Clean Air Act requires that a Lead SIP be developed since a National Ambient Air Quality Standard for lead has been adopted.

This document is intended to fulfil the requirements for a State Implementation Plan for Lead.

Sources of Lead Emissions

The major point sources of lead emissions which are addressed in the EPA promulgation are:

- Primary Lead Smelters
- Secondary Lead Smelters
- Primary Copper Smelters
- Lead Gasoline Additive Plants
- Lead Acid Storage Battery Manufacturing Plants
- Any other Stationary Source that actually emits 25 or more tons/year of lead.

There are no sources of this type or size in the State of Wyoming. In addition, none are expected in the foreseeable future.

The major source of lead emissions in the state is the combustion of leaded gasoline in automobiles. The EPA leaded gasoline phasedown requirements assure that the contribution from this source will decrease.

Measured Lead Concentrations

Ambient lead concentrations were determined for the years of 1977 and 1982 in Casper, 1978 and 1982 in Cheyenne, and 1978, 1980, and 1982 in Rock Springs. This data demonstrates that the ambient air is in an attainment status in Wyoming. This determination is based upon the level of the measured concentrations and the conclusion that these sites represent the areas which are subject to the highest lead emissions. The data are listed in Table 1. The data demonstrate that the state was in an attainment status October 5, 1978.

Maintenance and Enforcement

The ambient air quality data discussed above demonstrates that existing emissions do not cause violations of the standard. Thus, maintenance of the standard requires that a program to control emissions of lead from a new or modified facility be in place and operated. Wyoming has as part of its approved State Implementation Plan, a New Source Review and Prevention of Significant Deterioration Program. Under these programs - Sections 21 and 24 of the Wyoming Air Quality Standards and Regulations - any person who has to construct any new facility or source, modify an existing facility or source, or engage in the use of a facility or source is required to obtain a permit prior to such construction, modification, or use.

In issuing a permit under these requirements, the administrator is required to determine that all ambient standards will be maintained considering the construction and operation of the new facility. Thus, appropriate mechanisms are in place to assure maintenance of the lead standard.

In addition, the Wyoming Environmental Quality Act provides that the Director of the Wyoming Department of Environmental Quality has the power and duty to enforce the provisions of the Wyoming Environmental Quality Act and the rules and regulations promulgated thereunder. Thus, with the adoption of the ambient lead standard, adequate authority exists for the enforcement by the state of such standard.

Monitoring

Since Wyoming does not contain any areas with populations over 500,000, the monitoring requirements for lead in 40 CFR Part 58 are not applicable.

Proposed Ambient Lead Standard

The following ambient standard for lead is proposed:

The ambient air quality standard for lead and its compounds, measured as elemental lead by a reference method based on 40 CFR 50.12 Appendix G or by an equivalent method, is 1.5 micrograms per cubic meter, maximum arithmetic mean averaged over a calendar quarter.

TABLE 1

<u>Site</u>	<u>Quarter/Year</u>	<u>Mean</u> (All values in $\mu\text{g}/\text{m}^3\text{-STP}$)	<u>High</u>	<u>Low</u>
Casper-Courthouse	1 <u>st</u> (1977)* n = 13	0.217	0.549	0.000
	2 <u>nd</u> n = 12	0.324	0.607	0.126
	3 <u>rd</u> n = 15	0.455	0.807	0.136
	4 <u>th</u> n = 15	0.392	0.993	0.122
	Annual Mean	0.347		
* This site was down for most of 1978 due to remodeling of the building thus 1977 data was used.				
Casper-Courthouse	1 <u>st</u> (1982) n = 13	0.150	0.444	0.000
	2 <u>nd</u> n = 14	0.187	0.376	0.000
	3 <u>rd</u> n = 13	0.167	0.282	0.097
	4 <u>th</u> n = 12	0.133	0.289	0.051
	Annual Mean	0.159		
Cheyenne	1 <u>st</u> (1978) n = 15	0.282	0.563	0.056
	2 <u>nd</u> n = 15	0.198	0.318	0.031
	3 <u>rd</u> n = 16	0.333	0.740	0.199
	4 <u>th</u> n = 15	0.278	0.512	0.088
	Annual Mean	0.273		
Cheyenne	1 <u>st</u> (1982)	0.077	0.231	0.000
	2 <u>nd</u> n = 16	0.133	0.214	0.000
	3 <u>rd</u> n = 15	0.214	0.378	0.000
	4 <u>th</u> n = 13	0.115	0.321	0.000
	Annual Mean	0.135		
Rock Springs	1 <u>st</u> (1978) n = 15	0.678	1.400	0.240
Fearn Site	2 <u>nd</u> n = 15	0.672	0.979	0.380
	3 <u>rd</u> n = 16	0.775	1.320	0.430
	4 <u>th</u> n = 15	0.776	1.590	0.330
	Annual Mean	0.725		
	(1980)**			

** Data to be submitted at a later date.

TABLE 1 (Con't)

<u>Site</u>	<u>Quarter/Year</u>	<u>Mean</u> (All values in ug/m ³ -STP)	<u>High</u>	<u>Low</u>
Rock Springs	1 <u>st</u> (1982) n = 13	0.091	0.224	0.000
Landeen Site ***	2 <u>nd</u> n = 14	0.060	0.119	0.000
	3 <u>rd</u> n = 13	0.108	0.210	0.018
	4 <u>th</u> n = 12	0.079	0.252	0.000
	Annual Mean	0.085		

*** Fearn Site was not operating in 1982. The Landeen Site is located approximately 3/4 miles north of the Fearn Site.

Wyoming PM₁₀ Control Strategy
December 19, 1989

Newly adopted Wyoming regulations in response to revised NAAQS for PM₁₀ which contain all of the control measures mandated by the July 1, 1987 Federal Register became effective on February 13, 1989. These regulations were submitted to the EPA on March 14, 1989. In the October 27, 1989, Federal Register EPA proposed approval for the PM₁₀ State Implementation Plan for the Wyoming Group III areas with the requirement that the State... "re-identify, in detail, any other plans and regulations that are being relied upon by the PM₁₀ SIP to ensure continued compliance with the PM₁₀ NAAQS".

In addition to the regulations submitted by the State of Wyoming and for which EPA proposes approval, the State is relying upon the following currently effective and EPA approved regulations to ensure continued compliance with PM₁₀ NAAQS. These regulations together with the latest date of submittal to EPA are listed in TABLE I below.

TABLE I
Wyoming Regulations Pertaining to Particulate Control

<u>Regulation</u>	<u>Title</u>	<u>Most Recent Submittal Date to EPA</u>
Section 3	Particulate	March 14, 1989
Section 13	Open Burning	May 9, 1978
Section 14	Control of Particulate Emissions	July 18, 1980
Section 15	Woodwaste Burners	July 22, 1974
Section 17	Motor Vehicle Pollution Control	July 22, 1974
Section 18	Dilution and Concealing Emissions	July 22, 1974
Section 19	Abnormal Conditions and Equipment Malfunctions	July 22, 1974
Section 20	Air Pollution Emergency Episodes	March 14, 1989
Section 21	Permit Requirements	March 14, 1989
Section 22	New Source Performance Standards	October 27, 1989

Section 23	Continuous Monitoring Requirements for Existing sources	May 9, 1978
Section 24	Prevention of Significant Deterioration	March 14, 1989
Section 25	Sweetwater County Non-Attainment Area - Particulate Matter Regulations	January 25, 1979
Section 28	Visibility	September 6, 1988
Section 29	Emission Standards of Asbestos for Demolition, Renovation and Spraying	September 6, 1988

The Division believes these regulations provide a basis for a PM₁₀ control strategy which allows adequate protection of the PM₁₀ NAAQS. More specifically:

1. On February 10, 1970, the State of Wyoming adopted Section 13, "Open Burning". This regulation controls PM₁₀ emissions in that no open burning of refuse or trade wastes, excluding residential refuse burning in low population areas is permitted. This regulation also controls forest and vegetative prescribed burning by requiring Federal and State agencies to obtain permits and to model the proposed burns to identify the best atmospheric conditions under which burning can occur if it is shown to be in the public interest. This limits the impact of emissions from open prescribed burning by limiting the event to periods of good atmospheric dispersion.

2. The State of Wyoming adopted Section 14, "Control of Particulate Emissions" on February 10, 1970, with subsequent revisions on February 22, 1972, to limit particulate emissions from new and existing sources. This regulation limits visible emissions from point and fugitive sources, and sets limits on particulate matter emissions from fuel burning equipment.

3. Section 15, "Woodwaste Burners" which was adopted on February 10, 1970, by the State of Wyoming limits visible emissions from woodwaste burners to 20% opacity.

4. Section 17, "Motor Vehicle Pollution Control", adopted by the State of Wyoming on February 10, 1970 requires compliance with any Federal law or regulation pertaining to exhaust emissions control.

5. Beyond required changes directed specifically at the revised NAAQS for PM-10, Section 21, "Permit Requirements", which has been in effect since May 29, 1974, requires that any facility constructed, modified or used in the State of Wyoming utilize the Best Available Control Technology (BACT) to reduce or eliminate emissions. The regulation also states that any proposed facility shall not cause significant deterioration of existing ambient air quality as defined by any Wyoming regulation.

6. On April 4, 1978, the State of Wyoming adopted Section 23, "Continuous Monitoring Requirements for Existing Sources". This regulation requires any owner or operator of any existing fossil fuel fired steam generator with a heat input of greater than 250 million BTU per hour to install, calibrate, operate and maintain a continuous emission monitor for stack gas opacity. A written report describing the nature and cause of excess emissions is required each calendar quarter.

7. Beyond required changes directed specifically at the revised NAAQS for PM-10, Section 24, "Prevention of Significant Deterioration", which has been in effect in the State of Wyoming since January 25, 1979 requires that any person who plans to construct any major existing facility or undertake a major modification to an existing facility, in addition to the requirements of Section 21, shall be subject to an analysis of the predicated impact of emissions from the facility for all pollutants for which standards have been established under Wyoming regulations or under the Federal Clean Air Act and which are emitted in significant amounts.

8. Section 28, "Visibility" was adopted by the State of Wyoming on May 10, 1988. This regulation is directed toward assuring reasonable progress to the National goal of preventing future, and remedying existing visibility impairment in Class I areas. The regulation sets requirements for New Source Review and Long Term Strategy regarding visibility questions in which PM-10 Control is implicit.