EPA-450/3-75-053-a
July 1975

NATIONAL SUMMARY OF STATE IMPLEMENTATION PLAN REVIEWS (SECTION 4 ESECA)

VOLUME I

SYNOPSIS

U. S. ENVIRONMENTAL PROTECTION AGENCY

EPA-450/3-75-053-a

NATIONAL SUMMARY OF STATE IMPLEMENTATION PLAN REVIEWS (SECTION 4 ESECA)

VOLUME I
SYNOPSIS

Prepared by:

Energy and Environmental Systems Division
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439

U.S. Environmental Protection Agency
Office of Air and Waste Management
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

July 1975

TABLE OF CONTENTS

		Page
1.0	PURPOSE AND SCOPE	1
2.0	REVIEW APPROACH	3
3.0	FINDINGS	6
4.0	STATE SUMMARIES	14

LIST OF TABLES AND FIGURES

		Page
Table 1.	Summary Findings of SIP Reviews	8
Figure 1.	States in Which Regulation Revision Could Encourage Clean Fuels Savings	12
Figure 2.	States in Which Regulation Revision Could Encourage Clean Fuels Savings But Which Have Not Initiated SIP Revisions	13

NATIONAL SUMMARY OF STATE IMPLEMENTATION PLAN REVIEWS (SECTION 4 ESECA)

VOLUME I
SYNOPSIS

1.0 PURPOSE AND SCOPE

The purpose of this Synopsis and accompanying Technical Support Document is to summarize the review of the State Implementation Plans (SIPs) required by Section 4 of the Energy Supply and Environmental Coordination Act of 1974 (ESECA). In compliance with ESECA, the U.S. Environmental Protection Agency (EPA) has completed a review of each SIP with respect to emission limiting regulations for stationary fuel combustion sources. The SIPs have been examined to determine if regulations may be revised without jeopardizing the attainment and maintenance of any National Ambient Air Quality Standard (NAAQS).

As required by law, findings of individual SIP reviews have been reported to each state and territory. The main objective of the reports has been to stimulate a change of regulations that generate unnecessary demands for clean fuels.

States desiring to submit a plan revision have been informed that ESECA provides that EPA must approve or disapprove the revision within three months. The states have also been informed, however, that the SIP review reports provided to them were designed to be advisory in nature and to primarily highlight "indications" of unnecessarily stringent regulations. In this regard, EPA has stated that ESECA does not require a change to any existing plan and that the ESECA reviews are only the first step of an official SIP revision process.

The time and resources available to prepare the SIP reviews did not permit the consideration of growth, economics, and control strategy tradeoffs. The states have been clearly advised that the findings of the reports are by no means conclusive and were neither intended nor adequate to be the sole basis for SIP revisions. For those states that use the report as a vehicle for deciding to submit a plan revision, EPA has indicated the necessity of verifying and expanding the modeling and monitoring data supporting the review and has suggested that the states consider issues such as air quality maintenance, prevention of significant deterioration, and increased sulfate, total suspended particulate, and hydrocarbon levels that might occur in fuel switching.

In many respects, the ESECA reviews have paralleled previous programs established under EPA's Clean Fuels Policy, which addressed sulfur dioxide (SO_2) regulations. The efforts consisted of reviewing SIPs and encouraging states to defer compliance with stringent SO_2 emission limits for coal-fired power plants where this could be done without hampering NAAQS

attainment. Also, states were asked to discourage large-scale shifts from coal to oil or gas where possible. The Clean Fuels Policy addressed states with the largest clean fuels savings potential and several of these states, generally in the eastern half of the nation, have initiated or completed SO_2 regulation revisions.

The ESECA reviews have gone beyond the Clean Fuels Policy by analyzing unnecessarily restrictive regulations in every state and territory. In addition, the reviews addressed the attainment and maintenance of all primary and secondary NAAQS affected by emissions from not only power plants but industrial sources and area sources as well. Since stationary fuel combustion installations constitute the greatest source of SO_2 emissions and are a major source of total suspended particulate matter (TSP), the analysis in each review focused mainly on TSP and SO_2 emissions. Hydrocarbon (HC) and carbon monoxide (CO) regulations were not addressed in the reviews because they do not -- with regard to stationary fuel combustion sources -- constitute a major part of the strategy to attain and maintain NAAQS or pose a roadblock to fuel use. Also, only limited analysis was conducted on the attainment and maintenance of the annual NO_2 standard. The selected reviews for NO_2 were dictated by a limited and inconsistent data base, a basic belief that violations are currently confined to only a few metropolitan centers, and an understanding that NO_X emission control regulations are not generally a significant fuel-use constraint. In addition, in 1973 EPA relaxed the classification of 43 Air Quality Control Regions and at that time indicated most NO_X emission limiting regulations could be rescinded or modified.

2.0 REVIEW APPROACH

In conducting the ESECA reviews, EPA recognized four predominant reasons for the existence of unnecessarily restrictive emission limiting regulations:

1. The state's prerogative to adopt emission limits more stringent than those required to achieve the NAAQS;

2. The adoption of State Ambient Air Quality Standards more stringent than the NAAQS;

3. The use of the example region approach to develop statewide regulations; and

4. The large, isolated sources in an Air Quality Control Region (AQCR), which have been used as the basis for controlling the entire region.

In the first two situations, many states have simply exercised options available to them under the Clean Air Act. The State Implementation Plans, at a minimum, are required to demonstrate the attainment and maintenance of NAAQS. Under provisions of the Clean Air Act, however, additional controls, either in the form of stringent emission limits or stricter ambient air quality standards, can be developed at the discretion of the state. In several cases, states adopted the NAAQS, which were in effect when the SIPs were submitted in 1972. Some of the standards (e.g., the annual secondary SO_2 standard and the 24-hour guide to achieve that standard) have been rescinded by EPA, but not all states have revised the corresponding state standards. These standards, depending upon the location of the source, may be more restrictive than the current NAAQS.

In the last two instances, many states initially developed control strategies based only on a portion of a state or on a single large source. This approach, at the time the plans were approved by EPA, was acceptable mainly due to the short time for developing plans mandated by the Clean Air Act. The example region concept permitted a state to identify the most polluted Air Quality Control Region (AQCR) and adopt control regulations that would be adequate to attain the NAAQS in that region. In using an example region, it was assumed that NAAQS would be attained in the other AQCRs of that state if the control regulations were applied to similar sources. The problem with the use of an example region is that it can result in controls that are more stringent than needed to attain NAAQS, especially in the utilization of clean fuels, for areas of the state where sources would not otherwise contribute to NAAQS violations. For instance, a control strategy based on a particular region or source can result in a regulation requiring one percent sulfur oil to be burned statewide where the use of three percent sulfur coal would be adequate to attain NAAQS in some locations.

EPA has conducted the review of emission regulations by examining the four predominant statewide situations mentioned above as well as other factors that are germane to the control of stationary fuel combustion sources in each Air Quality Control Region. For example:

> Does the state have air quality standards that are more stringent than NAAQS?
>
> Did the state use an example region approach for demonstrating the attainment of NAAQS <u>or</u> more stringent state standards?
>
> Does the state have emission limitation regulations for control of 1) power plants, 2) industrial sources, 3) area sources?
>
> Has the state initiated action to modify combustion source emission regulations for fuel savings; i.e., under the Clean Fuels Policy?
>
> Are there any proposed Air Quality Maintenance areas?
>
> Are there indications of a sufficient number of monitoring sites within a region?
>
> Is there an expected 1975 attainment date for NAAQS?
>
> Are there reported violations of NAAQS?
>
> Are there indications of a significant tolerance for increasing emissions?
>
> Are the total emissions from stationary fuel combustion sources a small portion of the total?
>
> Do modeling results for specific fuel combustion sources show a potential for regulation revision?
>
> Is there a significant clean fuels savings potential in the region?

The reviews were directed at answering the above questions and using them as "indicators" of whether there is a potential for relaxing regulations. These indicators were addressed on an AQCR basis and regions were classified as good, marginal, or poor candidates for regulation revision.

AQCR ratings were determined by assessing the following criteria:

Good	Poor	Marginal
1) Adequate number of air monitoring sites	1) Violations of NAAQS	1) No air quality data or insufficient number of monitoring sites
2) No NAAQS violations	2) Attainment date for NAAQS later than 1975	2) Inconsistent "indicators"
3) Attainment date of 1975 for NAAQS in the SIP	3) Proposed AQMA	
4) No proposed AQMAs	4) Modeling results show no potential for regulation revision	
5) Modeling results show a potential for regulation revision		

For an AQCR to have been rated as a good candidate, all of the criteria listed under "Good" were satisfied. The overriding factor in rating an AQCR as a poor candidate was a violation of either the primary or secondary National Ambient Air Quality Standards. However, if any of the other conditions listed under "Poor" existed, the AQCR would have still received that rating. The main reason for a marginal rating was a lack of sufficient air quality data. In Priority III regions, air monitoring was not required during 1973; therefore, in many cases there were no data with which to determine the current air quality status. Marginal ratings were also given when there were varying or inconsistent "indicators."

In some areas, sufficient data were available to determine if regulation revision might result in significant clean fuels savings. This information was used to further modify the AQCR assessments. Lack of clean fuels savings potential was interpreted as an indication that regulation revision, even though possible from an air quality standpoint, was not necessary since little was to be gained. An evaluation of a clean fuels savings potential, when made, was based on a state's own fuel consumption pattern and not on national patterns. The combination of a significant clean fuels savings potential and air quality indications for possible regulation revision reinforced the "good candidate" status.

3.0 FINDINGS

It is important to note that the SIP reviews have been conducted on an AQCR basis. While subdivision of the United States into 247 regions represents a high degree of resolution, air quality and source emissions are often highly localized. In such cases, policies and regulations based on an entire AQCR analysis may not be representative of local conditions.

For the 55 states and territories that were reviewed, all 247 AQCRs were evaluated for both TSP and SO_2. The analysis conducted for particulate and SO_2 regulations addressed monitoring data, NAAQS attainment dates, proposed Air Quality Maintenance Areas, and in some cases, modeling results. Also, regulations for the control of NO_2 were evaluated for a limited number of AQCRs in the following states: New York, Maryland, Illinois, California, and Utah. The reviews found that emission limiting regulations for NO_2 are necessary for the attainment and maintenance of the NO_2 standard in those states and are not unnecessarily restrictive in the context of Section 4 of ESECA.

In general, the reviews found little indication that particulate emission limiting regulations are overly restrictive. In many areas of the country, widespread emissions of TSP from stationary and mobile sources, as well as the natural and man-made background levels of particulates, were found to be challenging the effort to meet the national air quality standards. Relaxing particulate regulations in most areas of the country would only tend to aggravate the existing problem. Of the 247 AQCRs, 30 were found to be good candidates for revising TSP regulations, 5 AQCRs were found to be marginal candidates, and the remaining 212 AQCRs were found to be poor candidates.

Only Delaware and American Samoa displayed indications for being able to accept increased particulate emissions throughout most of the state. However, even in these locations there was estimated to be no clean fuels savings associated with a TSP regulation change. In all other states and territories, less than half of the AQCRs showed any potential for absorbing emission increases without jeopardizing NAAQS attainment and maintenance. In most of the reviews, the data were not adequate to determine if local conditions in portions of an AQCR would possibly warrant a TSP regulation revision; nevertheless, it was clear that states wishing to change particulate regulations must do so with extreme caution and only after significant, additional study.

With regard to the limitations placed on SO_2 emissions, the reviews found the EPA's Clean Fuels Policy of encouraging states to revise unnecessarily restrictive emission regulations has already reduced much of the "overcleaning" required by the original SIPs. Four states were found, as a result of the Clean Fuels Policy, to have completed SIP revisions. In addition to these four states, the ESECA reviews found 17 states having indications of both a clean fuels savings potential and unnecessarily restrictive SO_2 regulations; however, 13 of these states currently have revisions underway. Only the states of New Jersey, Virginia, North Carolina, and Minnesota were found to have some potential for regulation revisions, but have not initiated SIP revisions.

The four states that have been identified as SO_2 revision candidates in the SIP reviews can be subdivided into two general fuel-use categories. With regard to power plants, New Jersey is primarily an oil-burning state, while Virginia, North Carolina, and Minnesota, for the most part, burn coal.

New Jersey, like many northeastern states, is heavily oil dependent. New Jersey currently restricts combustion sources to 0.2% or 0.7% sulfur depending on the location of the sources. New Jersey is currently granting variances to a large number of combustion sources allowing them to burn higher sulfur fuels. This action has essentially relaxed fuel regulations for specific sources throughout the state.

In Virginia, SO_2 NAAQS were found to be exceeded only in one interstate AQCR. Ambient air quality levels were also close to the standard in the National Capitol AQCR. The other AQCRs in Virginia showed indications for increasing SO_2 emissions. Virginia's SO_2 regulations, given in pounds per hour, translate to an approximate coal sulfur content of 0.7% in certain areas and 1.7% in cleaner areas of the state; for oil, these restrictions become 1.0% and 2.5%. There are no proposed AQMAs. Minimal air quality attainment and maintenance problems, modeling data, and estimates that regulation revision will encourage a clean fuel conservation, indicate that Virginia might be a candidate for regulation revision.

The state of North Carolina could also consider relaxation of its SO_2 emission regulations. Even under the present regulations, many sources could possibly utilize higher sulfur fuels than they presently burn. Thus, the potential for clean fuels savings exists for some sources even within the present regulations. An overall move to higher sulfur fuel use would require regulation revision. The present lack of modeling data, however, indicates that a substantial review and evaluation effort would be required to indicate to what extent, if any, relaxation could be allowed.

With regard to Minnesota, there are indications of a substantial margin for increased SO_2 emissions in all regions except Minneapolis-St. Paul. Modeling results from the state's largest power plant, the A. S. King Plant, indicate a potential for switching to higher sulfur coal despite the high SO_2 levels in Minneapolis-St. Paul. The large Fox Lake Plant has been identified as having the potential to switch from oil to coal. Modeling results plus other positive air quality indications existing in Minnesota were found to provide a basis for reconsideration of the state's SO_2 regulations for large fuel-burning sources. Additional localized study, however, is necessary to fully determine the impact of any regulation revision.

Table 1. Summary Findings of SIP Reviews

AQCR	Total Number of AQCRs	Review Evaluation: Air Quality Assessment[a]: Number of AQCRs Indicating a Potential for Increasing Emissions: TSP	SO_2	Is Regulation Revision Likely to Encourage Significant Clean Fuels Savings?[b]	SIP Status: No Apparent Action to Revise Regulations	SIP Revisions Underway or Completed
REGION I						
Connecticut	4	1	1	No	X	
Maine	5	2	0	No	X	
Massachusetts	6	0	3	Yes		Underway
New Hampshire	3	1	2	No		Underway
Rhode Island	1	0	0	No	X	
Vermont	2	0	0	No		Underway
REGION II						
New Jersey	4	0	1	Yes	X	
New York	8	0	4	Yes		Underway
Puerto Rico	1	0	0	Yes		Underway
Virgin Islands	1	0	1	Yes		Underway
REGION III						
Delaware	2	1	1	No	X	
Dist. of Columbia	1	0	0	No	X	
Maryland	6	1	5	Yes		Underway
Pennsylvania	6	0	0	Yes		Underway
Virginia	7	0	4	Yes	X	
West Virginia	10	3	8	No		Completed

Table 1. (Contd.)

AQCR	Total Number of AQCRs	Review Evaluation: Air Quality Assessment[a]: Number of AQCRs Indicating a Potential for Increasing Emissions: TSP	SO_2	Is Regulation Revision Likely to Encourage Significant Clean Fuels Savings?[b]	SIP Status: No Apparent Action to Revise Regulations	SIP Revisions Underway or Completed
REGION IV						
Alabama	7	1	5	No		Completed
Florida	6	2	3	Yes		Underway
Georgia	9	1	6	No		Underway
Kentucky	9	0	1	Yes		Underway
Mississippi	4	1	3	No	X	
North Carolina	8	0	8	Yes	X	
South Carolina	10	1	8	No		Completed
Tennessee	6	0	4	No		Completed
REGION V						
Illinois	11	3	3	Yes		Underway
Indiana	10	0	5	Yes		Underway
Michigan	6	0	3	No		Underway
Minnesota	7	0	4	Yes	X	
Ohio	14	2	8	Yes		Underway
Wisconsin	8	0	5	No	X	
REGION VI						
Arkansas	7	0	7	c		Underway
Louisiana	3	0	3	c	X	
New Mexico	8	2	6	No	X	
Oklahoma	8	0	8	c	X	
Texas	12	0	11	No	X	

Table 1. (Contd.)

AQCR	Total Number of AQCRs	Review Evaluation: Air Quality Assessment[a]: Number of AQCRs Indicating a Potential for Increasing Emissions: TSP	SO_2	Is Regulation Revision Likely to Encourage Significant Clean Fuels Savings?[b]	SIP Status: No Apparent Action to Revise Regulations	SIP Revisions Underway or Completed
REGION VII						
Iowa	12	1	11	Yes		Underway
Kansas	7	0	7	No	X	
Missouri	5	0	4	No	X	
Nebraska	4	0	4	No	X	
REGION VIII						
Colorado	8	0	7	d		Underway
Montana	5	1	2	No	X	
North Dakota	2	0	1	No	X	
South Dakota	4	0	4	No	X	
Utah	3	0	0	No	X	
Wyoming	3	0	2	No	X	
REGION IX						
American Samoa	1	1	1	No	X	
Arizona	4	0	0	No	X	
California	11	3	0	No		Underway
Guam	1	0	0	No	X	
Hawaii	1	0	0	No	X	
Nevada	3	0	1	Yes		Underway

Table 1. (Contd.)

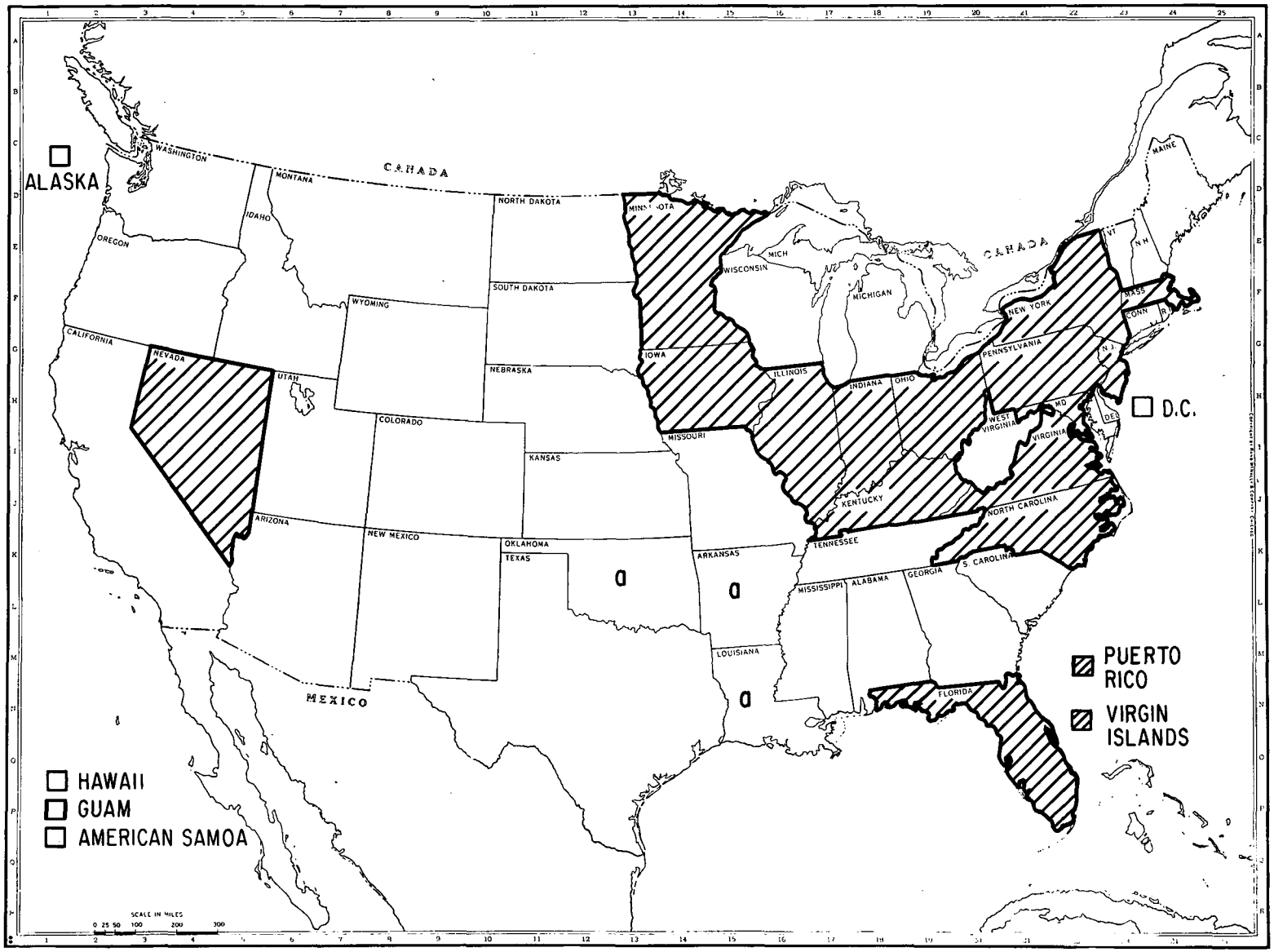
AQCR	Total Number of AQCRs	Review Evaluation: Air Quality Assessment[a]: Number of AQCRs Indicating a Potential for Increasing Emissions: TSP	SO_2	Is Regulation Revision Likely to Encourage Significant Clean Fuels Savings?[b]	SIP Status: No Apparent Action to Revise Regulations	SIP Revisions Underway or Completed
REGION X						
Alaska	4	0	4	No	X	
Idaho	4	0	3	No	X	
Oregon	5	2	4	No	X	
Washington	6	0	3	No	X	

[a]Based on air quality monitoring, modeling results, attainment dates, proposed AQMA designations, and emissions.

[b]This evaluation is made relative to the state's own fuel consumption and not relative to national clean fuel consumption.

[c]Not possible to evaluate due to form of regulation.

[d]SO_2 regulations have been withdrawn pending revision.



[a]Form of regulation makes evaluation difficult.

Fig. 1. States in Which Regulation Revision Could Encourage Clean Fuels Savings

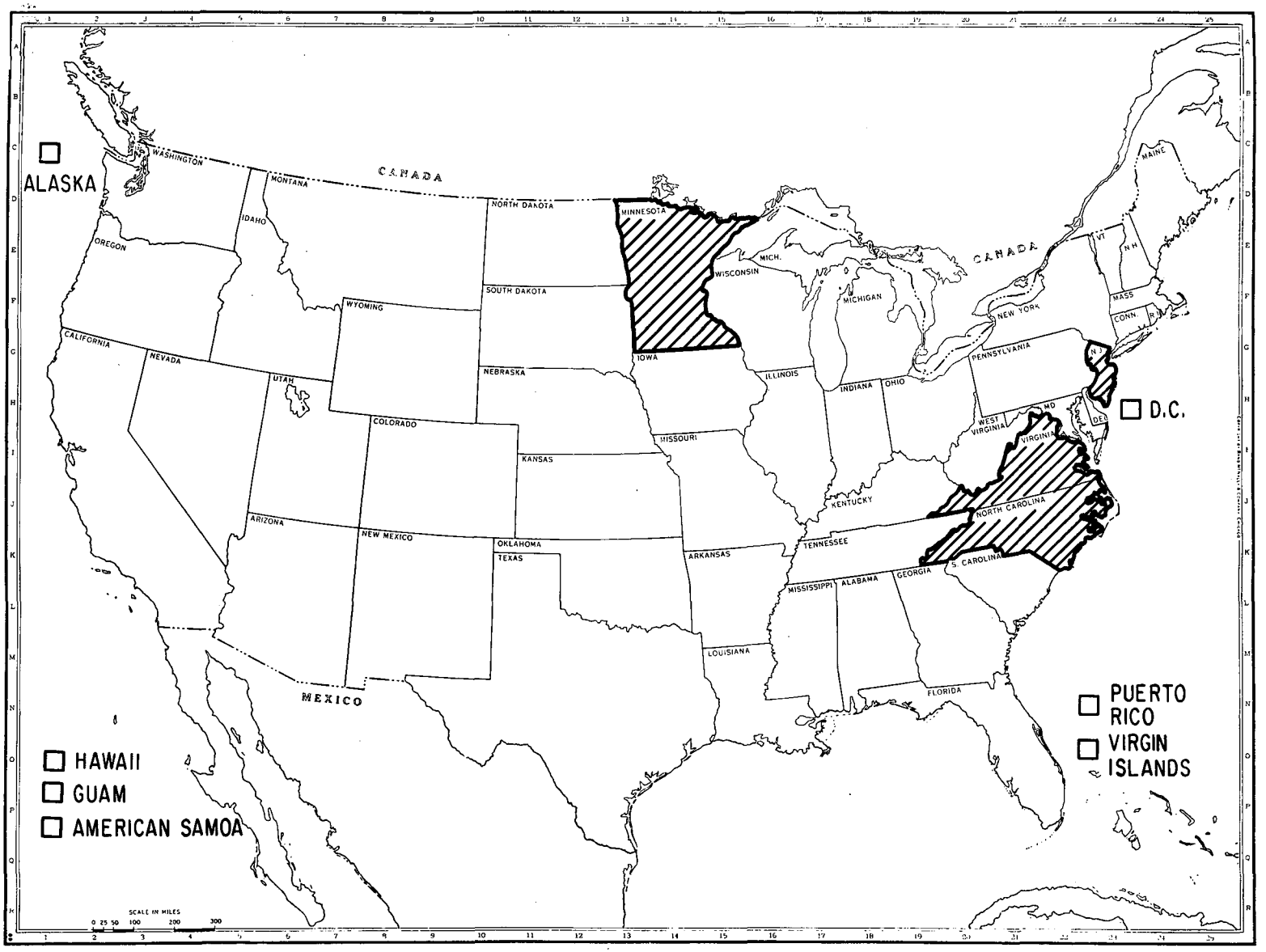


Fig. 2. States in Which Regulation Revision Could Encourage Clean Fuels Savings But Which Have Not Initiated SIP Revisions

4.0 STATE SUMMARIES

The following are condensed versions of the ESECA review findings for each state and territory. These summaries are broken down by EPA Regions. For additional data, the reader is referred to the accompanying Technical Support Document. Also, for a detailed picture of an individual state, the reader may consult the individual SIP Review Report.

Region I

Connecticut

For particulates, there are indications that little potential exists for revising emission limiting regulations. Likewise, SO_2 regulations show only a limited potential for revision. Eastern Connecticut and Northwestern Connecticut Intrastate AQCRs are the most likely areas for an SO_2 revision; however, clean fuel savings are estimated to be minimal.

Maine

Maine currently uses little coal for fuel combustion, relying heavily on oil. For TSP, only Metropolitan Portland shows limited potential for possible regulation revision. SO_2 levels in Androscoggin Valley and Down East AQCRs indicate potential for regulation revision. Considerably more data, however, is needed concerning air quality in Maine.

Massachusetts

Recent actions by the state of Massachusetts parallel the intentions of Section 4 ESECA. In an attempt to reduce the impact of fuel shortages and to conserve clean fuels, Massachusetts has recently passed legislation mandating a relaxation of all statewide ambient air quality standards to NAAQS levels.

New Hampshire

Almost all fuel combustion sources in the state of New Hampshire use fuel oil. Although little coal is used, only one AQCR (Central New Hampshire) shows a potential for TSP regulation revision. Two AQCRs (Androscoggin Valley and Merrimack Valley) indicate a potential for SO_2 regulation revision.

Rhode Island

Due to high levels of TSP and SO_2, there is little potential for revising fuel combustion source emission limiting regulations in Rhode Island.

Vermont

Recent actions by the state of Vermont are compatible with the intentions of Section 4 ESECA. To reduce the impact of shortages and to conserve clean fuels, Vermont is considering a revision to its sulfur-in-fuels regulation with a sulfur content of 1.5% allowing 2.5% based on the unavailability of 1.5% sulfur fuels.

Region II

New Jersey

Two of New Jersey's AQCRs have the potential for clean fuels savings. Metropolitan Philadelphia (AQCR #45) and New Jersey Intrastate (AQCR #150) both have some areas that could likely absorb emission increases. However, significant fuel switching must proceed cautiously since the existing major sources are in areas of high industrial growth and activity. Potential clean fuels savings are likely to result from increased use of higher sulfur oil in place of distillate oil.

New York

While there is little indication for potential TSP regulation revision, four AQCRs indicate a limited potential for SO_2 regulation revision. These are Central New York, Genesee-Finger Lakes, Southern Tier East and Southern Tier West AQCRs.

Puerto Rico

Existing high levels of TSP indicate little potential for regulation revision. Puerto Rico is in the process of revising its sulfur content regulations using source-by-source diffusion modeling to determine optimal sulfur content to attain NAAQS. This activity is compatible with the intent of ESECA.

Virgin Islands

For TSP there are no indications of overly restrictive regulations. The Virgin Islands are in the process of developing sulfur content regulations that are compatible with the Clean Fuels Policy and thus Section 4 of ESECA.

Region III

Delaware

In the Southern Delaware AQCR, there were no reported violations of NAAQS for either particulates or SO_2. However, there currently are no regulatory limits on fuel sulfur content in this region.

District of Columbia

For both TSP and SO_2, there is little indication that current emission regulations are overly restrictive.

Maryland

Recent action by the state of Maryland parallels the intention of Section 4 of ESECA. In an attempt to reduce the impact of fuel shortages, the state has proposed a plan revision that would postpone the date of fuel oil sulfur content limits until 1980.

Pennsylvania

Statewide, there is little indication that existing fuel combustion regulations are overly restrictive. Locally, recent action of the state parallels the Clean Fuels Policy and Section 4 of ESECA. A plan revision was submitted and approved postponing the date of fuel sulfur content regulations for Philadelphia.

Virginia

For TSP, there are no indications that existing fuel combustion source emission regulations are overly restrictive. SO_2 regulations may, however, have a potential for relaxation in certain areas such as Hampton Roads, Northeastern Virginia, and the Valley of Virginia Intrastate AQCRs.

West Virginia

Due to high TSP levels, any relaxation of particulate regulations could only serve to aggravate NAAQS attainment. In an effort to reduce the impact of fuel shortages and to conserve clean fuels, West Virginia submitted a plan to relax existing SO_2 regulations. A revision to the West Virginia SIP was approved on August 12, 1974, which allowed a maximum discharge of SO_2 from 32,000 to 45,000 lb/hr from all sources in a given facility. This revision affected only one large power plant, the John E. Amos Plant in the Kanawha AQCR.

Region IV

Alabama

Alabama has previously revised its SO_2 regulations to allow for considerable clean fuels savings. Considering available modeling data, air quality data and current fuel sulfur contents, the potential for further regulation relaxation exists only in portions of the Tennessee River Valley - Cumberland Mountains Interstate (AQCR #7).

Florida

Dade, Broward, and Palm Beach counties have substantially more restrictive air quality standards than NAAQS. Although there appears to be little support for revision of TSP regulations, SO_2 regulations could be revised to allow burning of higher sulfur oil in all regions except Jacksonville-Brunswick and West Central Florida. Of 40 power plants on line in 1975, only 5 are coal burning. Florida is currently reviewing its fuel combustion regulations.

Georgia

The Georgia SIP emission limiting regulations are presently under litigation in the 5th Circuit Court of Appeals (Natural Resources Defense Council, Inc. vs. Environmental Protection Agency, Case No. 7-2402). These regulations allow for the consumption of up to 3% sulfur fuels (or equivalent emissions). EPA has determined these regulations are adequate to protect NAAQS at all but three power plants.

Kentucky

The Commonwealth of Kentucky is presently considering revising its ambient standards to be identical with NAAQS. Also, the SO_2 emission limitations are being proposed for revision at this time. The potential for regulation relaxation exists in portions of five of the nine Kentucky AQCRs. However, the emission limits may need to be strengthened in portions of four Kentucky AQCRs.

Mississippi

The Mississippi ambient standards are presently more restrictive than NAAQS. There are indications that certain AQCRs have a tolerance for SO_2 emission increase in Mississippi, but the consumption of higher sulfur fuels is presently allowable under the state's regulations.

North Carolina

The state of North Carolina could consider relaxation of its SO_2 emission regulations. However, even under the present regulations, many sources could utilize higher sulfur fuels than they presently burn. Thus, the potential for clean fuels savings exists for some sources even within the present regulations. An overall move to higher sulfur fuel use would require regulation revision. The present lack of data indicates that a substantial modeling effort would be required to indicate to what extent, if any, relaxation could be allowed.

South Carolina

South Carolina recently revised its emission regulations for fuel combustion sources. The new SO_2 regulations allow for an emission limit based on local conditions rather than regionwide considerations.

Tennessee

Tennessee has previously revised its SO_2 regulations to allow for considerable clean fuels savings. The potential for further SO_2 regulation relaxation exists in all areas of the state except in portions of two AQCRs. Tennessee is presently considering further revisions to its SO_2 emission limitation.

Region V

Illinois

Illinois' statewide regulations are based on the example region approach. The state has adopted federal standards for particulates, and limited analysis indicates little tolerance for making these restrictions more lenient. This is due to high TSP readings in areas where a significant clean fuels savings potential exists. SO_2 regulations are substantially more stringent in the major metropolitan areas (MMAs) of Chicago, Peoria, and St. Louis than in other areas of the state. These urban regulations were successfully challenged by a utility, and the case is now being appealed by the Illinois

Pollution Control Board before the Illinois Supreme Court. In addition, the Illinois Environmental Protection Agency has proposed that power plants outside the three major metropolitan areas not be required to install control equipment and that supplementary control systems be installed in the interim. Only the Burlington-Keokuk Interstate (AQCR #65) would provide a significant clean fuels savings by utilization of high sulfur coal.

Indiana

Indiana has initiated changes to its SO_2 regulations, which would result in the applications of emission limits based on local considerations rather than "worst region" constraints. This concept is consistent with EPA's Clean Fuels Policy analysis and with this ESECA review.

Michigan

Michigan's statewide emission regulations for TSP and SO_2 were based on a modified example region approach. A program of delayed compliance exists and has been used regarding specific fuel combustion sources. No changes in SO_2 regulations have been initiated since the Michigan Air Pollution Commission is using the delayed compliance provision.

Minnesota

For TSP, there appears little support for regulation revision. There are indications in all regions except Minneapolis-St. Paul that SO_2 emissions could increase substantially. Clean fuels savings potential are significant in some areas.

Ohio

EPA is currently developing fuel combustion regulations in the state of Ohio. This program will be consistent with the Clean Fuels Policy and national environmental goals.

Wisconsin

Wisconsin used a modified example region approach to develop particulate regulations. Except for Southern Wisconsin, all AQCRs report high particulate levels. Such levels suggest that existing regulations should not be relaxed. Most of the coal used by Wisconsin does not regulate the sulfur content of combustion fuels.

Region VI

Arkansas

Any relaxation of Arkansas' particulate regulations would only serve to aggravate the state's already serious TSP situation. Ambient SO_2 concentrations in the state are generally low. Natural gas accounts for about half of the fuel heat input with oil contributing about a third of the total.

Louisiana

Natural gas is the major fuel for the state's fuel combustion sources and accounts for 93% of all heat input. Such a large proportion of gas consumption is not due to overly restrictive environmental regulations but the availability of natural gas. Widespread TSP violations and sources operating well below current regulations preclude the potential for regulation revision in Louisiana.

New Mexico

New Mexico did not use an example region approach to develop its SIP control strategy. Fugitive dust from unpaved roads is a significant contributor to NAAQS particulate violations in most areas of the state. With the exception of the Four Corners Region, essentially all the state's combustion fuel is natural gas. Due to the specific nature of New Mexico's regulations and current fuel use, it does not appear that the state's regulations covering TSP and SO_2 are overly restrictive.

Oklahoma

Though the example region approach was utilized, the state's regulation for existing SO_2 sources is based on ambient air (SO_2) concentrations observed beyond the emitter's property line. Violations of TSP NAAQS have been reported in every Oklahoma AQCR. In the context of Oklahoma's fugitive dust problem, the state's particulate emission regulation does not appear overly restrictive. Because of its low ambient levels, Oklahoma was not required to prepare an SO_2 control strategy.

Texas

It does not appear that regulations in Texas are overly restrictive, but state regulations make analysis of restrictiveness difficult. Although natural gas is the major fuel used in the state's 73 identified power plants, 65 of the plants also use oil.

Region VII

Iowa

For particulates, there is little indication that existing fuel combustion emission regulations are overly restrictive. For SO_2 there is good indication that existing fuel combustion emission regulations may be overly restrictive. Iowa is currently in the process of revising its SO_2 emission regulation.

Kansas

Metropolitan Kansas City was used as an example region to demonstrate attainment of NAAQS, using an air quality display model rather than linear rollback. Current fuel use practices result in most sources emitting below particulate regulations at present. SO_2 emission regulations also allow some fuel switching to occur without regulation change. Given the current air quality, Kansas is not a likely candidate for regulation revision.

Missouri

Missouri used Kansas City as the example region and separated the St. Louis Metropolitan AQCR to demonstrate NAAQS attainment. The TSP regulations do not appear to be overly restrictive. Current air quality sampling data for St. Louis indicate an isolated portion of the region exceeds the SO_2 standards. SO_2 sources other than power plants are in this area, and the emission regulations for these sources may have to be tightened. There are no indications that emissions from power plants in the Missouri portion of the St. Louis AQCR are causing violations of the air quality standards. Outside St. Louis all sources are controlled by ambient air quality levels only.

Nebraska

Nebraska used the example region approach in developing statewide control strategies for TSP and SO_2. Preliminary study indicates that while Nebraska's fuel combustion regulations may be overly restrictive to meet ambient air quality standards, TSP and SO_2 regulations are not roadblocks to the use of higher sulfur fuels. Many TSP monitoring stations currently exceed NAAQS. Much of the state's TSP problem can be attributed to windblown fugitive dust. Thus, while many sources in Nebraska are emitting below what regulations would allow, any increase in such emissions would be detrimental to the attainment of NAAQS. Nebraska's SO_2 concentrations are below NAAQS, and the state has adopted statewide regulations that appear more restrictive than air quality dictates. However, such regulations allow for considerable SO_2 emission increases via fuel switching within the limits of the regulations.

REGION VIII

Colorado

Colorado used the example region approach and has more stringent air quality standards than NAAQS. Colorado's plan revision was approved on October 18, 1974 to better balance the SIP. The SO_2 regulations were withdrawn.

Montana

Montana has indications of a widespread TSP problem with violations in all but the Great Falls AQCR. Since most fuel combustion sources are operating within current regulations, any relaxation could only aggravate attainment of NAAQS. For SO_2, emission regulations may be overly restrictive in only the Great Falls and Miles City AQCRs.

North Dakota

North Dakota used a statewide approach to develop control strategies. Although North Dakota's air quality standards for TSP and SO_2 are more stringent than federal standards, preliminary analysis indicates that current regulations are not overly restrictive. Substantial emissions from agriculturally related industries could present TSP attainment problems throughout the state. Combustion TSP increases would make attainment problems more difficult. SO_2 levels are sufficiently below state air quality standards to allow an increase in emissions within the limits of present regulations.

South Dakota

South Dakota utilized the statewide approach to develop its control strategies. While the state has adopted more stringent air quality standards than the federal government, there are no indications that resultant regulations are overly restrictive. Three of South Dakota's four AQCRs appear to have TSP attainment problems. Such problems result primarily from agriculturally related industries. Relaxation of TSP regulations would make the possibility of attainment more difficult. South Dakota's SO_2 concentrations are currently below NAAQS. While initial study indicates SO_2 regulations may appear overly restrictive in the context of SO_2 concentrations, there exists sufficient potential for fuel switching within the limits of current regulations.

Utah

There are no indications that Utah has overly restrictive TSP and SO_2 emission regulations in the context of Section 4 of ESECA. Utah presently uses local coal for a large percentage of stationary fuel combustion. Additional utilization can be effected within the framework of existing regulations.

Wyoming

Wyoming has indications of a widespread TSP problem with violations occurring in all AQCRs. Therefore, any relaxation of particulate matter regulations could interfere with attainment of NAAQS. In the absence of modeling results, the recently adopted SO_2 regulations may be more stringent than necessary to maintain NAAQS.

Region IX

American Samoa

The example region approach was not used in American Samoa. Because of the limited number of stationary sources, there are no indications of NAAQS violations or overly restrictive regulations.

Arizona

Although Arizona used an example region approach to develop its SIP control strategy and has a 24-hour SO_2 standard more restrictive than NAAQS, there are no indications that current regulations are overly restrictive.

California

California is currently in the process of reviewing its SIP with respect to air quality and fuel combustion sources throughout the state.

Guam

The example region approach was not used in developing control strategies for TSP and SO_2. There are no indications that Guam's regulations are overly restrictive.

Hawaii

Agricultural burning and bagasse combustion boilers contribute significantly to Hawaii's particulate problem. Because of high TSP levels and high local SO_2 levels, Hawaii does not appear to have overly restrictive emission regulations.

Nevada

Although Nevada utilized the example region approach and has a 24-hour SO_2 air quality standard, the state's emission regulations, because of limited data, have not been found to be overly restrictive. Fugitive dust and SO_2 emissions from large point sources, such as copper smelters, contribute to a widespread TSP problem and a locally high SO_2 level.

Region X

Alaska

Fugitive dust suspended by traffic and other activities is a major contributor to Alaska's high TSP levels. Such high levels preclude significant increases in particulate emissions. In many cases SO_2 emissions are significantly below Alaska's regulatory limit allowing clean fuels savings within the constraints of state regulations. Additionally, regulations appear to also have the potential for revision and still provide for the attainment and maintenance of NAAQS.

Idaho

Particulate fuel combustion regulations do not appear overly restrictive in Idaho. Although SO_2 fuel combustion regulations appear overly restrictive, significant increases in SO_2 emissions may occur within the limits of current regulations. In addition, SO_2 fuel combustion regulations appear overrestrictive in most areas of the state.

Oregon

Because of locally high particulate levels, regulations appear overly restrictive only in the Central Oregon AQCR. Other AQCRs show potential in cleaner portions of the regions. SO_2 regulations appear overly restrictive in all regions except the Northwest AQCR and the Portland Interstate. Due to the use of natural gas and low sulfur fuel oils, most sources are currently operating significantly below regulatory ceilings.

Washington

Washington's particulate levels are such that any significant increase in particulate emissions would make attainment and maintenance of NAAQS difficult. SO_2 emissions, on the other hand, may increase significantly in all AQCRs except Puget Sound. Washington's regulations are such that SO_2 emissions can increase without violating current regulations. A potential, additionally, may exist for the revision of SO_2 regulations.

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO. EPA-450/3-75-053-a	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE NATIONAL SUMMARY OF STATE IMPLEMENTATION PLAN REVIEWS (Section 4 ESECA) VOLUME I, SYNOPSIS		5. REPORT DATE July 1975
		6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)		8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Environmental Protection Agency, Office of Air Quality Planning & Standards, Research Triangle Park, NC and Argonne National Laboratory, Argonne, IL		10. PROGRAM ELEMENT NO.
		11. CONTRACT/GRANT NO.
12. SPONSORING AGENCY NAME AND ADDRESS U.S. Environmental Protection Agency, Office of Air & Waste Management, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711		13. TYPE OF REPORT AND PERIOD COVERED Final
		14. SPONSORING AGENCY CODE
15. SUPPLEMENTARY NOTES		

16. ABSTRACT

Section 4 of the Energy Supply and Environmental Coordination Act of 1974 (ESECA) requires EPA to review each State Implementation Plan (SIP) to determine if revisions can be made to control regulations for stationary fuel combustion sources without interfering with the attainment and maintenance of the National Ambient Air Quality Standards. Although not required by ESECA, this document is a national summary of each state and territory SIP review. This document is intended by EPA to answer a number of anticipated questions arising from the review of the SIPs.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air Pollution State Implementation Plans		

18. DISTRIBUTION STATEMENT Release Unlimited	19. SECURITY CLASS *(This Report)* Unclassified	21. NO. OF PAGES 27
	20. SECURITY CLASS *(This page)* Unclassified	22. PRICE

EPA Form 2220-1 (9-73)

INSTRUCTIONS

1. **REPORT NUMBER**
Insert the EPA report number as it appears on the cover of the publication.

2. **LEAVE BLANK**

3. **RECIPIENTS ACCESSION NUMBER**
Reserved for use by each report recipient.

4. **TITLE AND SUBTITLE**
Title should indicate clearly and briefly the subject coverage of the report, and be displayed prominently. Set subtitle, if used, in smaller type or otherwise subordinate it to main title. When a report is prepared in more than one volume, repeat the primary title, add volume number and include subtitle for the specific title.

5. **REPORT DATE**
Each report shall carry a date indicating at least month and year. Indicate the basis on which it was selected *(e.g., date of issue, date of approvcl, date of preparation, etc.)*.

6. **PERFORMING ORGANIZATION CODE**
Leave blank.

7. **AUTHOR(S)**
Give name(s) in conventional order *(John R. Doe, J. Robert Doe, etc.)*. List author's affiliation if it differs from the performing organization.

8. **PERFORMING ORGANIZATION REPORT NUMBER**
Insert if performing organization wishes to assign this number.

9. **PERFORMING ORGANIZATION NAME AND ADDRESS**
Give name, street, city, state, and ZIP code. List no more than two levels of an organizational hirearchy.

10. **PROGRAM ELEMENT NUMBER**
Use the program element number under which the report was prepared. Subordinate numbers may be included in parentheses.

11. **CONTRACT/GRANT NUMBER**
Insert contract or grant number under which report was prepared.

12. **SPONSORING AGENCY NAME AND ADDRESS**
Include ZIP code.

13. **TYPE OF REPORT AND PERIOD COVERED**
Indicate interim final, etc., and if applicable, dates covered.

14. **SPONSORING AGENCY CODE**
Leave blank.

15. **SUPPLEMENTARY NOTES**
Enter information not included elsewhere but useful, such as: Prepared in cooperation with, Translation of, Presented at conference of, To be published in, Supersedes, Supplements, etc.

16. **ABSTRACT**
Include a brief *(200 words or less)* factual summary of the most significant information contained in the report. If the report contains a significant bibliography or literature survey, mention it here.

17. **KEY WORDS AND DOCUMENT ANALYSIS**
(a) DESCRIPTORS - Select from the Thesaurus of Engineering and Scientific Terms the proper authorized terms that identify the major concept of the research and are sufficiently specific and precise to be used as index entries for cataloging.

(b) IDENTIFIERS AND OPEN-ENDED TERMS - Use identifiers for project names, code names, equipment designators, etc. Use open-ended terms written in descriptor form for those subjects for which no descriptor exists.

(c) COSATI FIELD GROUP - Field and group assignments are to be taken from the 1965 COSATI Subject Category List. Since the majority of documents are multidisciplinary in nature, the Primary Field/Group assignment(s) will be specific discipline, area of human endeavor, or type of physical object. The application(s) will be cross-referenced with secondary Field/Group assignments that will follow the primary posting(s).

18. **DISTRIBUTION STATEMENT**
Denote releasability to the public or limitation for reasons other than security for example "Release Unlimited." Cite any availability to the public, with address and price.

19. & 20. **SECURITY CLASSIFICATION**
DO NOT submit classified reports to the National Technical Information service.

21. **NUMBER OF PAGES**
Insert the total number of pages, including this one and unnumbered pages, but exclude distribution list, if any.

22. **PRICE**
Insert the price set by the National Technical Information Service or the Government Printing Office, if known.