The original documents are located in Box 4, folder "Auto Emissions (2)" of the James M. Cannon Files at the Gerald R. Ford Presidential Library.

THE WHITE HOUSE

WASHINGTON

May 6, 1975

Dick Dunham
Do we need to have up a meeting with JMC? I assume you should take action on this memo.

MEMORANDUM FOR: JIM CAVANAUGH

FROM: Glenn Schleede

SUBJECT: Auto Emissions

Mike asked me to get to you a copy of three papers on the auto emission issue for purposes of an early meeting with Mr. Cannon. As you know, the Administration's testimony on auto emissions probably will begin next Tuesday and we must still get a Presidential decision.

The three papers attached are:

1. OMB's decision memo on the standards.
2. A draft cover memo.
3. A draft Presidential statement (this could be converted to a letter or other appropriate form).

The latter two papers were written at Jim Lynn's request to Mike.

Hans Mark has promised me a call tomorrow (Wednesday) with the latest conclusions of his group.

Attachment

cc: Dick Dunham
Mike Duval

5/1/75
Draft

MEMORANDUM FOR

FROM:

SUBJECT: AUTO EMISSION STANDARDS

The Congress now has before it ~~from the Administration~~ two different sets of recommended auto emission standards for 1977-1981 model year cars:

- Your January 30 proposals which were a part of your energy package.
- Russ Train's March 5 decisions and recommendations which were driven by concern over sulfuric acid from catalytic converters.

Since March 5:

- OMB has led an extensive interagency review of the implications of various alternative emission standards for public health, air quality, fuel economy and consumer costs.
- Russ Train's decisions have been challenged by elements within EPA, by environmentalists, and by elements of industry most interested in continued use of converters.
- It has become very clear that information is not available to permit firm conclusions as to the importance of the sulfuric acid problem and this information will not be available for at least several months. Experts disagree as to the potential danger.

Auto companies need to know by early August what the emission standards will be for 1977 model cars. If the Congress does not act, Russ Train's March 5 decisions with respect to 1977 standards will go into effect--resulting in continuing 1975-76 standards for hydrocarbons(HC) and carbonmonoxide(CO); and tightening the nitrogen oxides(NOx) standard below 1975-76 levels and your January 30 proposal.

This memorandum and its enclosures(a) summarize the findings from the OMB-led review, and (b) seek your decision on three issues:

1. Do you wish to revise or withdraw formally your earlier proposal?

2. Do you wish to submit a new legislative proposal and, if so, when and how should it be done?

3. If you wish to propose specific standards, what should the be and what model years should they cover?

For all practicable purposes, the voluntary 40% fuel economy agreement with automobile comapnies is suspended or nulified by the Train recommendations. Depending upon your decisions on the above issues, it may be feasible and desirable to work out a new agreement.

ISSUES FOR DECISION

The three issues listed above will be presented in the order listed but we recommend that you not decide any of them until you have considered all three.

Issue #1. Do you wish to revise or withdraw formally your earlier proposal?

All of your advisers believe that some new statement is needed since events have left unclear the Administration's recommendation. The lack of clarity could be used by the Congress to criticize the Administration or perhaps as an excuse for not moving on legislation in time to meet the deadline facing automobile companies for 1977 models. It will be clear in the discussion of alternative standards that retention of your January 30 proposal with respect HC and CO -- i.e., adopting California standards -- is no longer practicable since it would increase sulfuric acid emissions.

Decision

_____Withdraw January 30 Proposal

_____Do not withdraw January 30 proposal.

Issue #2. Do you wish to submit a new legislative proposal and, if so, when and how should it be done?

Normally, a new legislative proposal would be developed following your decision on specific standards(Issue #3) and submitted to the Congress with a letter or statement. This normal sequence is complicated by three factors:

- The great complexity of the problem and the difficulty of conveying a clear understanding to the Congress and the public.

- The absence of hard information on the potential seriousness of the sulfuric acid problem and the sharp disagreement among experts and parties at interest over the sulfuric acid question.

- A proposal made on behalf of Senator Jennings Randolph by the Public Works Committee Chief Counsel that (a) you issue a public statement on the importance and complexity of the issue, (b) that the Administration present information on all realistic alternative emission levels, (c) that you not make specific recommendations until after Senate hearings are completed, and (d) that you emphasize the importance of a cooperative effort with the Congress to resolve the auto emission issue.

Alternatives(Issue #2)

Alt. A: Follow normal procedure; i.e., develop legislative proposal, submit and defend.

The principal arguments for this approach are that(a) it is normal procedure, (b) places you in strong leadership position -- which leadership is particularly important on this complex issue, and (c) probably would involve less time -- and the auto industry must soon have a decision.

Alt. B: Follow Randolph proposal; help assure that information is presented on all alternatives, take position after hearings.

The principal arguments for this approach are that (a) it would improve the quality of information available to the Congress and the public on all alternatives, thus increasing understanding of a complex issue; (b) reduce the liklihood of Congressional attacks on the Administration's alternative and the liklihood of substitution of a politically more attractive but less meritorious alternative.

Recommendations & Decision(Issue #2)

	Alt. A - Normal Procedure	Alt. B - Randolph Proposal

Issue #3. If you wish to propose specific standards, what should they be and what model years should they cover?

Auto emission standards have an impact on air quality, health effects, aesthetics, fuel economy, fuel ingredients, initial car costs, car maintenance costs and, indirectly, on automobile sales and employment in auto and related industries. Jim Lynn's memorandum at Tab A identifies and discusses the alternative emission levels and their implications in detail. That memo also presents the alternatives and recommendations for your decision(Pages 8 -11 of Tab A).

Whatever your decision on standards, your advisers believe it is essential that you issue a statement which (a) explains the importance and complexity of the issue to the public, and (b) outlines the rationale for your position.

A decision on the alternatives in Tab A in fact involves a number of implicit decisions:

- In view of the uncertainty over the sulfuric acid problem, should it be taken seriously?
- What consideration warrants highest priority in selecting among alternatives -- public health, meeting air quality standards, fuel economy, consumer costs, etc.?
- For what period of time should auto emission standards be set and stabilized -- 3 years, 5 years ?
- What specific standards for HC, CO, NOx?
- Is action to outlaw the catalytic converter warranted?

Enclosed at Tab B is a rough draft of a public statement, message or letter that could be used if you selectoption 3, 4 or 5 when deciding issue 3(that is continue current 1975-76 standards or adopt Canadian or 1973-74 standards). Minor changes would be needed depending on the option you select. This draft is included in the package as an attempt to give you a basis for judging the possible extent of public understanding of the issue and your decision. No statement, or perhaps a totally different one, would be required if you select options 1 or 2.

Even though energy and economic issues have taken on added significance since the Clean Air Act's rigid requirements were enacted, I believe that health continues to be the most important consideration to the public and that health should receive highest priority consideration in making your decision.

By way of guidance in reviewing the detailed paper at Tab A, several generalizations can be made:

. Air Quality
- Only certain metropolitan areas have auto-related pollution problems; HC, CO or NOX now or in the future exceeds national ambient standards.
- Regardless of the auto emission standard selected, there will be little impact on the expected ambient air quality in 1985 for HC, CO and NOx because:
  - CO has already been reduced substantially.
  - HC has been reduced substantially from car exhausts; most HC comes from other sources.
  - NOx is now a problem in only 2 cities and will be in 8 by 1985, but most NOx comes from stationary sources.
  - Estimates are in dispute of (a) sulfuric acid emissions from catalyst equipped cars, and (b) likley build up of sulfuric acid concentrations. But there is general agreement that (a) catalyst equipped cars emit more sulfuric acid than non catalyst cars, and (b) catalyst equipped cars must also have an air pump to meet California HC-CO standards and these cars emit at least twice as much sulfuric acid.

.Health Effects
- Since the marginal differences in HC, CO & NOx are very small regardless of the auto emission standard selected, the potential health effect is also very small.
- The health impact of sulfuric acid is expected to be serious at levels expected in 2-3 years under EPA's original projections and ___ years under more optomistic projections.
- Russ Train's decision on HC-CO standards (which he has not changed, despite attachment) reflects the conclusion that a very small but generally known health impact from the marginally less restrictive HC-CO standards is preferable to an unknown but potentially serious helath impact from sulfuric acid -- which would be increased by tightening the HC-CO standard.

. Fuel Economy.
- The tighter the emission standards, the less the fuel economy.

. Consumer costs.
-The tighter the emission standards, the higher the initial car cost -- though the difference is small in some cases.

. Technological and fuel options
-The tighter the emission standards, the fewer the technological options for meeting standards.

Recommendations and Decisions (Issue #3) - Data on alternatives in Tab A, with arguments for and against at pp. 8-11.

		HC	CO	NOx
	Option 1: Energy Independence Act - 1977 - 81	0.9	9.0	3.1
Train, Peterson	Option 2: Train - March 5 - 1977-79	1.5	15.0	2.0
	- 1980-81	.9	9.0	2.0
	(sulfare standard for 1979)			
Coleman, Zarb Wineberger, Interior, Commerce	Option 3: Extend current stds. - 1977-81	1.5	15.0	3.1
	Option 4: 1973-74 or Canadian Stds. -1977 - 81 (Canadian)	2.0	25.0	3.1 or
Simon	Option 5: (1973-74)	3.0	28.0	3.1

DRAFT
5/1/75

The Congress is now engaged in a review of automobile pollution control requirements of the Clean Air Act. The decisions that must be made on these requirements will affect in a major way the interest of most all Americans -- those who own and drive cars and those who do not. The decision is important to all Americans because it will have an impact on our Nation's ability to achieve objectives involving public health, energy, consumer prices, unemployment, and the strength of our economy, as well as the objective of improved air quality. The decision must reflect the best possible choice as to priorities and balance among the competing national objectives that are involved.

On January 30, 1975, I recommended that Congress establish auto emission standards that would remain stable for 1977 through 1981 model year cars. At the same time, my Administration obtained the committment of the nation's three largest auto manufacturers to make a major effort to increase fuel economy for the new car fleet in 1980 by 40% over 1974 levels.

Subsequent to those developments, the EPA conducted extensive hearings relating to auto emission requirements. On March 5, 1975, following those hearings, EPA Administrator Train announced conclusions and recommendations with respect to 1977-1981 standards which were different from the standards I had proposed. The Administrator indicated that his decisions and recommendations were heavily affected by his

conclusion -- which had the full support of the Secretary of Health, Education and Welfare -- that sulfuric acid mist emitted from cars equipped with catalytic converters could, within a few years, cause a potentially serious health problem. This new conclusion called sharply into question the wisdom of tightening auto emission standards as I had proposed on January 30. These tighter standards would have required that many automobiles be equipped with catalytic converters and air injection pumps. Cars equipped with catalysts and air pumps emit more than twice as much sulfuric acid as those without air pumps.

Following the EPA action, I directed that a thorough interagency review be conducted of the auto emissions control problem and of alternative emission control requirements, so as to identify for each set of requirements the implications for air quality, health effects, fuel economy and consumer costs. Despite some uncertainties, principally with respect to health effects that will result from sulfuric acid emitted by catalytic converters, I believe the information now available provides the basis for prompt decision on auto emission standards.

Before presenting my specific recommendations, I believe it is important to provide a brief summary of (a) the background and status of current statutory requirements, (b) the alternatives that have been evaluated within the Executive Branch, and (c) the principle factors that should be taken

into account in deciding the auto emission standards issue. This brief review of the matter should make it clear that this is a most complex public policy decision that requires weighing and balancing a broad array of potential benefits, risks and costs for the Nation.

Background

By way of background, it should be noted that the Clean Air Act amendments of 1970 set very rigid standards and deadlines for the reduction of hydrocarbons(HC), carbon-monoxide(CO) and oxides of nitrogen(NOX) from automobiles. It proved impossible to meet the original requirements and changes have been made. The current statutory requirements are:

	HC	CO	NOX
1977	1.5	15.0	2.0
1978 and future years	.41	4.0	.4

There is general agreement that the current statutory standards applicable to 1978 and future years cannot possibly be met and will have to be changed. These requirements as well as the 1977 requirements are now being subjected to Congressional review.

Alternatives

The review by Executive Branch agencies considered the implications of a range of alternative automobile emission requirements which might be applied to 1977 through 1981 model automobiles. Specifically, the following standards

applicable to hydrocarbons(HC), carbonmonoxide(CO) and oxides of nitrogen(NOX) emissions have been considered:

	Emissions in grams per mile		
	HC	CO	NOX
My January 30 recommendations covering 1977-81 model years	0.9	9.0	3.1
Mr. Train's March 5 conclusions			
- for 1977-79 models	1.5	15.0	2.0
- for 1980-81 models	.9	9.0	2.0
Continue standards applicable to 1975-76 models for 1977-81	1.5	15.0	3.1
Adopt Canadian 1975-76 standards for 1977-81 models	2.0	25.0	3.1
Reimpose standards applicable to 1973-74 models for 1977-81	3.0	28.0	3.1

Important Factors

There are a number of significant factors that need to be considered in evaluating the automobile emission problem:

1. Controls on auto emissions have produced significant benefits and will continue to do so in those areas that have an auto-related pollution problem. Lower pollutant levels in these areas can reduce adverse health effects and reduce photochemical oxidants (smog) which is aesthetically unpleasant and a serious irritant.

2. Automobile related pollutants are a problem in some metropolitan areas but are not a problem in many parts of the country. Auto emission standards, however, have been applied nationwide (except in California which

may have more stringent standards) and the added costs for pollution control equipment, maintenance, and lower gasoline mileage are paid by drivers in all areas of the country -- including those areas that do not have a problem. ____ metropolitan areas now experience concentrations of auto related pollutants which at some time during the year exceed national ambient air quality standards.

3. Controlling automobile pollutants is a technologically complex problem as illustrated by the fact that steps taken to control some pollutants from internal combustion engines have had the effect of increasing other pollutants or creating new ones. For example, controls to reduce hydrocarbons (HC) tend to increase emissions of oxides of nitrogen (NOX) -- and the reverse is also true. The most recent example is the potentially serious problem of sulfuric acid mist from cars equipped with catalytic converters installed to meet 1975-76 hydrocarbon (HC) and carbonmonoxide (CO) standards. Also, experts now indicated that reduction of NOX standards below the current standards (3.1 grams per mile) could require the use of larger catalysts or catalysts with air pumps which increase sulfuric acid emissions.

4. Considerable progress has been made on automobile emissions since the 1970 Clean Air Act Amendments were passed. In the case of HC and CO, the standards applied to 1973-74 model cars reflect a 65% reduction in emission from

pre-control levels (and 1975-76 standards reflect an 83% reduction)*. In the case of NOX, EPA determined subsequent to the 1970 amendments that earlier assessments of NOX concentrations in air had been grossly overstated and that a 90% reduction in NOX emissions was not necessary to meet ambient air quality standards. However, NOX emissions have been reduced by 12% from uncontrolled levels and work is underway to find more effective ways of controlling NOX emissions from stationary sources. Stationary sources contribute more NOX than automobiles in virtually all of the 10 metropolitan areas that could have concentrations exceeding the national standard over the next 10 years.

5. Tighter or looser auto emission standards for HC, CO or NOX within the range of alternatives available make little difference in the air quality in the areas that have an auto-related pollution problem. This little known fact is true because: (a) of progress already made in controlling emissions or (b) because automobiles are not the principal source of the pollutant involved. The contribution of HC, CO and NOX from automobiles will continue to decline as more and more cars meeting existing or past standards replace older models in the nation's fleet of automobiles. In the case of carbonmonoxide, concentrations in metropolitan areas around the country have been declining steadily. In the case of hydrocarbon (which are an ingredient of photochemical oxidants or smog) emissions have been declining but less

rapidly than carbonmonoxide because automobiles account for only about 25% of the hydrocarbons that comes from other than natural sources. In the case of NOX, three metropolitan areas in the country experience concentrations at this time which exceed national air quality standards and this number may increase to 9 or 10 areas in the next 10 years. The growth would be due primarily to stationary sources. Tightening standards for automobiles below the current levels could produce slightly lower concentrations in the future but such tightening would not assure meeting national ambient air quality standards in the 9 or 10 metropolitan areas expected to have a problem. As indicated above, tightening of HC, CO or NOX standards is expected to increase the emission of sulfuric acid.

6. Experts believe there is little or no health impact that can be attributed with the small margin of change in ambient air quality that would result from tighter or looser HC, CO or NOX auto emission standards within the range being discussed. This is the case principally because tightening standards beyond 1973-74 levels (1975-76 levels*) will have very little impact on concentrations of these pollutants in the areas that have an auto-related pollution problem.

7. There is uncertainty concerning the health impact of sulfuric acid mist emissions from catalyst equipped cars because of insufficient data and divergent estimates of the importance of the problem among the various interests

concerned. The seriousness of the sulfuric acid emissions problem will depend upon (a) the amount of emissions from catalyst equipped cars, (b) the extent to which concentrations of sulfuric acid build up in areas that impact the public, and (c) whetehr there is a threshold below which sulfuric acid is not injurious to health. While there is uncertainty, the Administrator of EPA and the Secretary of HEW have made it clear to me that they believe there is the potential for a significant health risk that cannot be dismissed with information now available. This assessment led the Administrator of EPA to conclude on March 5 that HC and CO standards should not be tightened at this time because tighter standards would, with technology now available, force use of catalysts and air pumps on many cars nationwide in 1977. Because of the potential risk, the Administrator also indicated that he was considering the setting of an emission standard covering sulfuric acid applicable to 1979 model cars.

8. Auto emission standards have had a significant impact on miles per gallon of gasoline and on our nation's total petroleum demands and reliance on foreign sources.

a. Emission controls applied to automobiles between the years 1968 and 1974 caused a very significant reduction in miles per gallon of gasoline. It is true, however, that the use of catalytic converters on 1975 cars manufactured to meet 49-state emission standards permitted engine

adjustments which helped regain some lost gasoline mileage. The higher levels of pollution created in the retuned engines were captured and converted in the catalytic converters. Cars which must meet the tighter emission standards applied in California get poorer gasoline mileage than comparable cars for other states.

b. An additional impact on petroleum demands comes from the need for unleaded gasoline for catalyst-equipped cars. The production of unleaded gasoline required changes in refinery processes which increased the quantity of crude oil required to produce each gallon of gasoline at the required octane level.

c. While there is some disagreement among Executive Branch agencies, the best information now available indicates that for the next few years emission standards tighter than 1973-74 (1975-76) levels will involve significant gasoline mileage penalties. Specifically, with technology now available, there would be a fuel economy penalty associated with tightening the NOX standard from 3.1 to 2.0 grams per mile and there would be an additional penalty associated with tighter HC and CO standards.

d. There is also general agreement that technology is available to permit increases in fuel economy over the next few years compared to 1974 levels if 1975-76 standards are maintained through 1981 and even greater fuel economy improvements if either the 1973-74 standards were reestablished

or Canadian standards were adopted.

9. In addition to poorer fuel economy, increased consumer costs resulted from higher initial car costs for emission control equipment and associated maintenance costs. Tightening of HC, CO or NOX standards from 1975-76 levels would involve additional costs. Actions to reduce sulfuric acid emissions from catalyst equipped cars would also involve additional cost.

10. Less stringent auto emission within the range now available would open up technological options for meeting standards that would not be available with tighter standards (e.g., the so-called stratified charge engines, "lean-burn" technologies and other internal combustion engine modifications). These technological options will permit fuel economy improvements that are not possible with tighter standards.

11. The basic philosophy and approach that has been used to bring about auto emission controls needs to be reconsidered in light of current conditions.

a. We should be clear about the philosophy that has been applied in the Clean Air Act auto emissions standards and the rationale behind that philosophy. Briefly, the philosophy has been that automobile companies do not have market incentives to develop technology to reduce auto emissions and would not develop such technology unless forced to do so by progressively rigid standards backed up by law and regulation. It would be difficult to

contend that progress achieved so far in controlling auto emissions would have been achieved if this approach had not been used. On the other hand, hindsight suggests we are now faced with a potentially serious sulfuric acid problem which might not have occurred had more time been allowed to develop and assess technology before it was put into use. The wisdom of continuing the "technology forcing" approach is open to question.

b. Auto emission standards have been changed frequently in recent years, allowing little time for developing and assessing alternative technologies. As standards have become more stringent, the technological changes required have become more extensive and more sophisticated. More time is required to develop and assess improved technology and bring it to a stage where it can be used on production line cars. These factors, the current economic status of the automobile industry, and the demands being placed on the industry simultaneously to meet safety standards and to improve fuel economy need to be kept in mind when the Congress considers the question of whether standards should be held stable for more years than has been the case in the recent past.

12. Prompt Congressional action is needed on auto emission standards. This matter warrants thorough discussion by the Congress and the public because of the far reaching implications. The matter also requires an early

decision by the Congress. Specifically, the Administrator of EPA advises me that in order to meet deadlines for emission testing and certification of 1977 model cars, the automobile industry will need to know 1977 emission standards by early August so that there will be time to complete design and engineering, build prototypes, complete emissions testing such as 50,000 mile endurance tests, and finally to produce new cars in adequate quantity to meet demand from the American public.

13. The broader economic implications of the auto emission decision must also be kept in mind. There undoubtedly has been some contribution to inflationary and recessionary pressures in the economy from the increased consumer costs, and poorer gasoline mileage (and greater reliance on foreign oil) resulting from emission control requirements. Inflationary and recessionary conditions have both contributed to and resulted from sharply lower sales and employment in the auto industry. Of course, any costs associated with auto emission controls must be balanced against the health, aesthetic and economic benefits that are gained from improved air quality.

14. Actions to reduce auto emissions must take into account other sources of the same pollutants. In cases where stationary sources of the same pollutants are significant contributors to a problem in the metropolitan areas of concern, it may be far more cost effective to place greater

reliance on reducing pollution from stationary sources. The problem of other sources is complicated by a growing body of opinion that natural sources of pollutants -- which cannot be controlled -- may be sufficiently important in some areas to prevent attaining national air quality standards regardless of what is done to control man-made sources.

Legislative Recommendations

Based upon the information and data that have been developed during the Executive Branch review of the auto emissions issue, I have today recommended to the Congress that the Clean Air Act be amended to set standards of _____grams per mile for HC, _____for CO, and _____for NOX. I have further recommended that these standards be kept in force for _____ years. These standards would be equivalent to those in effect for _____ model year cars. The rationale for my recommendations is quite clear.

First, the principal reason for my recommendation of leass stringent HC and CO requirements than I recommended earlier is the unknown but potentially serious health effects associated with sulfuric acid emitted from catalyst equipped vehicles, and the fact that this problem is exacerbated by the use of air pumps which would be needed on most cars to meet more rigid standards. In the absence of better data and greater agreement among experts, the potentially

serious health effects must take precedence over the known but very small potential health effect associated with the slight changes in HC and CO concentrations if HC and CO standards tighter than I have proposed were established.

Second, I have concluded that tightening of the NOX standard from 3.1 to 2.0 would be undesirable because the probable fuel economy loss and the probable need to use air injected catalyst systems to meet the 2.0 standard, which would increase sulfuric acid emissions. These potential costs are not balanced by the benefits of the very small change in ambient air quality and the imperceptible impact on health that could result from the tighter standards.

Third, the marginal benefits in those metropolitan areas with an auto related pollution problem which might result from tighter standards are very small. Based upon the information now available, those benefits do not appear to justify the large additional costs and risks that would be imposed nationwide. Furthermore, the standards I have proposed preserve technological approaches to pollution control that are cheaper in terms of fuel requirements and consumer costs which would not be available under tighter standards.

Fourth, I have proposed that the standards remain constant for _____ years so that the industry is not distracted unnecessarily from efforts to improve safety and fuel

economy. A pause for this period will not have significant adverse effects on our progress in improving air quality. It will also provide time for industry and the Government to help avoid costly errors and increase the chances of meeting fuel economy, safety and consumer cost objectives.

Administrative Actions

Because of the far reaching impact that automobile emission standards can have on all of the factors I have discussed, I feel very strongly that we should have known a great deal about the impact before standards were set.

I believe the Nation should not be subjected to far reaching Federal actions such as establishment of auto emission standards which required the catalyst without far better information than was available before the action was taken.

Current law requires that an Environmental Impact Statement be prepared showing the expected environmental impact of major Federal actions significantly affecting the quality of the human environment. Somewhat ironically, that requirement has not applied to Federal pollution control actions, such as the setting of auto emission standards which led to the catalyst technology. If such a requirement had been followed we might have known in advance of the health, environmental and economic implications of auto emission standards which led to the installation of catalytic converters.

Because of my concern over the potentially unforseen results of Federal actions, I have directed previously that inflationary impact statements be prepared on significant Federal actions affecting the economy. I intend to continue pursuing that basic approach to Federal decision making.

#3

#2

DRAFT
5/8/75

PRINCIPAL FINDINGS OF THE NATIONAL ACADEMY OF SCIENCES GROUP THAT MET ON MAY 5-6 TO REVIEW THE AUTOMOBILE EMISSIONS SITUATION

- The findings and conclusions are known to very few people outside the group that met.

- Statements below are paraphrased from a draft report that will be circulated about May 8 to participants in the meeting -- for review and comment. The report will be made available to the public as an Academy report sometime between May 23 and June 1.

- Participants listed at Tab A.

- The participants had available to them most, if not all, the materials that were available to the OMB-led interagency group.

- Some comments on the NAS approach at Tab B.

Findings

1. Emission standards for 1978 and subsequent model years should be those prescribed in law for HC and CO -- .41 and 3.4 grams per mile. Attaining these standards by 1978 is feasible and worthwhile and can be accomplished while preventing undesirable sulfuric acid levels.

2. Not of one mind about the statutory .4 grams per mile NOX standard. Agree that it probably is feasible to achieve .4 by 1978 but the marginal benefit of getting from 2.0 to .4 may not justify in 49-states in 1978.

   If statutory NOX standards (.4) are relaxed, for 49 states, the two-car stratey must be accepted with California going to .4. Longer term (1982?) objective would be .4 nationwide.

3. Adherence to statutory .4 standards will discourage further development of stratifed charge, lean burn and diesel. NAS group feels this is unfortunate in that it constitutes a "lid on technology" but the Nation is committed to the conventional internal combustion engine and the catalyst.

4. All the above can be accomplished without increasing sulfuric acid and this should be assured by setting a standard for sulfuric acid for 1978 model year cars. Harmful levels of sulfuric acid can be prevented in any one or combination of three ways:

   . 3-way catalyst.
   . lower sulfur in gasoline.
   . allocation and blending of fuels to assure supplies of low sulfur gasoline to areas such as California, New York City and New Jersey that might otherwise have a sulfuric acid problem. The NAS group notes that EPA's action in relaxing the standards is not sufficent in itself to solve the sulfuric acid problem if it is serious.

5. No evidence to justify changing existing ambient air quality standards. As inciated above, should set acid sulfate standard.

6. Important to move as soon as possible to regulate many other emissions that may be harmful, such as hydracloric acid, etc., etc.

7. All of the above can and should be done while meeting goals (unspecified) for improved fuel economy.

8. Greate need for developing standards to control other sources of emissions:

   . Heavy duty vehicles.
   . Motorcycles
   . Evaporative losses; e.g., from filling stations (which are a major source of hydrocarbon emissions.)

Dr. J.F. MacDonald - Chairman of the Commission on Natural Resources, Director, Environmental Studies Program, Dartmouth College

Dr. Ross Macdonald, Chairman of the Committee on Motor Vehicle Emissions (CMVE), Professor of Physics, University of North Carolina

Dr. Herschel E. Girffin, Chairman of the Committee on Medical and Bilogical Effects of Environmental Pollutants, Dean of Graduate School of Public Health, University of Pittsburgh

Dr. Herbert Simon, Chairman of the Coordinating Committee on Air Quality Studies (CCAQS), Professore of Computer Science and Technology at Carnegie-Mellon University

Dr. T. Timothy Crocker, Department of Community and Environmental Medicine of the University of California, College of Medicine.

Dr. Donald N. Dewees, Institute for Policy Analysis, University of Toronto

Dr. James A. Say, Department of Mechanical Engineering, MIT

Dr. Richard L. Garwin, IBM Fellow, Thomas J. Watson Research Center, Yorktown Heights, N.Y.

Dr. Edward L. Ginzton, NOT THERE

Dr. Bernard D. Goldstein, Department of Environmental Medicine, NYU Medical Center

Dr. A.J. Haagen-Smit, Division of Biology, Cal-Tech

Dr. Vladimir Haensel, Vice-President, Science and Technology Universal Oil Products Company, DesPlanes, Illinois

Dr. Joe W. Hightower, Department of Chemical Engineering, Rice University

Dr. Gregory K. Ingram, Department of Economics, Harvard University

Dr. James E.A. John, Department of Mechanical Engineering, University of Toledo

Dr. Ian C.T. Nisbet, Massachusetts Audubon Society, Lincoln, Massachusetts

Ms. Ellen Quackenbush, Arthur D. Little Co., Cambridge

Dr. Spurgeon Keeny, Mitre Corporation, McLean, Va.

Professor Robert F. Sawyer, Department of Mechanical Engineering, University of California, Berkeley

Dr. Carl M. Shy, Director, Institute for Environmental Studies, University of North Carolina

Dr. Jan A.J. Stolwijk, Fellow of Pierce Foundation Laboratories, New Haven, Connecticut

Dr. John Trijonis, TRW, Inc., Redondo Beach, California

Comments on the NAS Approach

1. The group did not follow a rigorous procedure, i.e., they did not collect, compile, and examine data on the points at issue in a rigorous way. Instead, they resolved issues through debate among the experts assembled.

2. They appear to have extraordinary confidence in the early development of technology -- confidence that is not even shared by those in EPA who are most eager to retain the catalyst.

3. They apparently have not examined the economic impacts very carefully.

4. Their conclusions have a heavy element of value judgement.

5. The participants in the group do not necessarily guarantee total objectivity.

THE WHITE HOUSE

WASHINGTON

May 14, 1975

MEMORANDUM FOR: PHIL BUCHEN
MAX FRIEDERSDORF
ALAN GREENSPAN
BOB HARTMANN
JIM LYNN
JACK MARSH
BILL SEIDMAN
PAUL THEIS

FROM: JIM CANNON

SUBJECT: AUTO EMISSION STANDARDS

Enclosed are advance copies of three papers which will be circulated formally for staffing tomorrow. These advance copies are to give you maximum time for review. They include:

Tab A - Draft cover memo to the President
Tab B - OMB Decision Paper on Auto Emission Standards
Tab C - Draft Presidential Statement

Attachments

TAB A

5/14/75

MEMORANDUM FOR

FROM:

SUBJECT: AUTO EMISSION STANDARDS

The Congress now has before it from the Administration two different sets of recommended auto emission standards for 1977-1981 model year cars:

- Your January 30 proposals which were a part of your energy package.

- Russ Train's March 5 decisions and recommendations which were driven by concern over sulfuric acid from catalytic converters.

Since March 5:

- OMB has led an extensive interagency review of the implications of various alternative emission standards for public health, air quality, fuel economy and consumer costs.

- Russ Train's decisions have been challenged by elements within EPA, by environmentalists, and by elements of industry most interested in continued use of converters. It has become very clear that information is not available to permit firm conclusions as to the importance of the sulfuric acid problem and this information will not be available for at least several months. Experts disagree as to the potential danger.

- Other groups are doing sulfuric acid studies, including the National Academy of Science.

- The Rogers Subcommittee in the House is marking up a Clean Air Act bill and the Muskie Subcommittee is holding hearings with Russ Train scheduled to testify on Wednesday, May 21.

Auto companies need to know by early August what the emission standards will be for 1977 model cars. If the Congress does not act, Russ Train's March 5 decisions with respect to 1977 standards will go into effect -- resulting in continuing 1975-76 standards for hydrocarbons (HC) and carbonmonoxide (CO); and tightening the nitrogen oxides (NOx) standard below 1975-76 levels and your January 30 proposal.

This memorandum and its enclosures (a) summarize the findings from the OMB-led review, and (b) seek your decision on two issues:

1. Do you wish to submit a new legislative proposal and, if so, when and how should it be done?

2. If you wish to propose specific standards, what should they be and what model years should they cover?

For all practicable purposes, the voluntary 40% fuel economy agreement with automobile companies is suspended or nullified by the Train recommendations. Depending upon your decisions on the above issues, it may be feasible and desirable to work out a new agreement.

ISSUES FOR DECISION

The two issues listed above will be presented in the order listed, but we recommend that you not decide any of them until you have considered both of them.

Issue #1

All of your advisers, except Russ Train, believe that some new statement is needed since events have left unclear the Administration's position. The lack of clarity could be used by the Congress to criticize the Administration or perhaps as an excuse for not moving on legislation in time to meet the deadline facing automobile companies for 1977 models. It will be clear in the discussion of alternative standards that retention of your January 30 proposal with respect to HC and CO -- i.e., adopting California standards -- is no longer practicable since it would increase sulfuric acid emissions.

Normally, a new legislative proposal would be developed, following your decision on specific standards, and submitted to the Congress with a letter or statement. This normal sequence is complicated by three factors:

- The great complexity of the problem and the difficulty of conveying a clear understanding to the Congress and the public.

- The absence of hard information on the potential seriousness of the sulfuric acid problem and the sharp disagreement among experts and parties at interest over the sulfuric acid question.

- A proposal made on behalf of Senator Jennings Randolph by the Public Works Committee Chief Counsel that (a) you issue a public statement on the importance and complexity of the issue, (b) that the Administration present information on all realistic alternative emission levels, (c) that you not make specific recommendations until after Senate hearings are completed, and (d) that you emphasize the importance of a cooperative effort with the Congress to resolve the auto emission issue.

Alternatives

Alt A. Take no new auto emissions position. Let the Administration stand on Russ Train's announcement and testimony.

This keeps your options open to take a definitive position once the facts have been sorted out and the health hazard of sulfuric acid is known. The problem with this approach is that you are exposed on the sulfate issue and the Train proposal may not allow for attainment of your fuel efficiency goal at a reasonable cost to consumers.

Alt B. Develop new legislative proposal, submit and defend.

The principal arguments for this approach are that (a) it is normal procedure, (b) it places you in a strong leadership position -- and leadership is particularly important on this complex issue, and (c) it probably would involve less time -- and the auto industry must have a decision soon.

This would result in resolving the Clean Air Act requirements which enables you and Congress to set auto fuel efficiency standards.

Alt C. Follow Randolph proposal; help assure that information is presented on all alternatives, take no position until after hearings.

The principal arguments for this approach are that (a) it would improve the quality of information available to the Congress and the public on all alternatives, thus increasing understanding of a complex issue; (b) reduce the likelihood of Congressional attacks on the Administration's alternative and the likelihood of substitution of a politically more attractive but less meritorious alternative. Also, you make your

decisions on the same evidence as Congress.

Recommendations and Decision (Issue #1)

_____ Alternative A. No new position. (Train

_____ Alternative B. Develop new legislation. (Lynn

_____ Alternative C. Submit facts only -- no legislation. (Randolph

Issue #2. If you wish to propose specific standards, what should they be and what model years should they cover?

Auto emission standards have an impact on air quality, health effects, aesthetics, fuel economy, fuel ingredients, initial car costs, car maintenance costs and, indirectly, on automobile sales and employment in auto and related industries. Jim Lynn's memorandum at Tab A identifies and discusses the alternative emission levels and their implications in detail. That memo also presents the alternatives and recommendations for your decision (Pages 8-11 of Tab A).

Whatever your decision on standards, your advisers believe it is essential that you issue a statement which (a) explains the importance and complexity of the issue to the public, and (b) outlines the rationale for your position.

A decision on the alternatives in Tab A in fact involves a number of implicit decisions:

- In view of the uncertainty over the sulfuric acid problem, should it be taken seriously?
- What consideration warrants higher weights in selecting among alternatives -- public health, meeting air quality standards, fuel economy, consumer costs, etc.?
- For what period of time should auto emission standards be set and stabilized -- three years, five years?
- What specific standards for HC, CO, NOx?
- Is action to suspend use of the catalytic converter warranted?

Enclosed at Tab B is a rough draft of a public statement, Message or letter that could be used if you select option 3, 4 or 5 when deciding issue 3 (i.e., continue current 1975-76 standards or adopt Canadian or 1973-74 standards which are less restrictive. Minor changes would be needed, depending on the option you select. This draft is included in the package as an attempt to give you a basis for judging the possible extent of public understanding of the issue and your decision. A substantially different statement, (i.e., impose tougher standards than current) would be required if you select options 1 or 2.

Even though energy and economic issues have taken on added significance since the Clean Air Act's rigid requirements were enacted, I believe that health continues to be the most important consideration to the public and that health should receive highest priority consideration in making your decision.

By way of guidance in reviewing the detailed paper at Tab A, several generalizations can be made:

- Air Quality

  - Only certain metropolitan areas have auto-related pollution problems, in that HC, CO or NOx now or in the future exceed national ambient standards.

  - Regardless of the auto emission standard selected, there will be little impact on the expected ambient air quality in 1985 for HC, CO and NOx because:

    . CO has already been reduced substantially.
    . HC has been reduced substantially from car exhausts; most HC comes from other sources.
    . NOx is now a problem in only two cities and will be in eight by 1985, but most NOx comes from stationary sources.
    . Estimates are in dispute over (a) sulfuric acid emissions from catalyst equipped cars, and (b) likely build-up of sulfuric acid concentrations. But there is general agreement that (a) catalyst equipped cars emit fifty times as much sulfuric acid than non-catalyst cars, and (b) catalyst equipped cars equipped with an air pump to meet California HC-CO standards emit at least twice as much sulfuric acid as catalytic mufflers in use in the rest of the country.

- Health Effects

  - Since the marginal differences in HC, CO & NOx are very small, regardless of the auto emission standard selected, the potential health effect is also very small.

- The health impact of sulfuric acid is expected to to be serious at levels expected in 2-3 years under EPA's original projections and 4 years in selected areas under more optimistic projections.

- Russ Train's decision on HC-CO standards (which he has not changed, despite attacks on it) reflects the conclusion that a very small but generally known health impact from the marginally less restrictive HC-CO standards is preferable to an unknown but potentially serious health impact from sulfuric acid -- which would be increased by tightening the HC-CO standard.

• Fuel Economy

- Tighter emission standards generally result in less fuel economy or significantly higher costs.

• Consumer Costs

- The tighter the emission standards, the higher the initial car cost -- though the difference is small in most cases.

• Technological and Fuel Options

- The tighter the emission standards, the fewer the technological options for meeting standards, e.g., at NOx levels below 2.0 lean burn and stratified charge engines are not viable options.

Recommendations and Decision (Issue #2). Data on alternatives in Tab A, with arguments for and against at Pages 8-11.

	Option 1: Energy Independence Act - 1977 - 81	0.9	9.0	3.1
	Option 2: Train - March 5			
Train, Peterson	- 1977-79	1.5	15.0	2.0
	- 1980-81	.9	9.0	2.0
	(sulfate standard for 1979)			
	Option 3: Extend current stds.			
Zarb, Coleman, Weinberger, Simon, Frizzell Morton	-1977-81	1.5	15.0	3.1
	Option 4: Canadian stds.			
Lynn	-1977-81	2.0	25.0	3.1
	Option 5: 1973-74 Stds.			
	-1977-81	3.0	28.0	3.1

TAB B

TAB C

DRAFT
5/14/75

The Congress is now engaged in a review of automobile pollution control requirements of the Clean Air Act. The decisions that must be made on these requirements will affect in a major way the interest of most all Americans -- those who own and drive cars and those who do not. The decision is important to all Americans because it will have an impact on our Nation's ability to achieve objectives involving public health, energy, consumer prices, unemployment, and the strength of our economy, as well as the objective of improved air quality. The decision must reflect the best possible choice as to priorities and balance among the competing national objectives that are involved.

On January 30, 1975, I recommended that Congress establish auto emission standards that would remain stable for 1977 through 1981 model year cars. At the same time, my Administration obtained the committment of the nation's three largest auto manufacturers to make a major effort to increase fuel economy for the new car fleet in 1980 by 40% over 1974 levels.

Subsequent to those developments, the EPA conducted extensive hearings relating to auto emission requirements. On March 5, 1975, following those hearings, EPA Administrator Train announced conclusions and recommendations with respect to 1977-1981 standards which were different from the standards I had proposed. The Administrator indicated that his decisions and recommendations were heavily affected by his

conclusion -- which had the full support of the Secretary of Health, Education and Welfare -- that sulfuric acid mist emitted from cars equipped with catalytic converters may within a few years, cause a potentially serious health problem. This new conclusion called sharply into question the wisdom of tightening auto emission standards as I had proposed on January 30. These tighter standards would have required that many automobiles be equipped with catalytic converters and air injection pumps. Cars equipped with catalysts and air pumps emit more than twice as much sulfuric acid as those without air pumps.

Following the EPA action, I directed that a thorough interagency review be conducted of the auto emissions control problem and of alternative emission control requirements, so as to identify for each set of requirements the implications for air quality, health effects, fuel economy and consumer costs. Despite some uncertainties, principally with respect to health effects will result from sulfuric acid emitted by catalytic converters, I believe the information now available provides the basis for prompt decision on auto emission standards.

Before presenting my specific recommendations, I believe it is important to provide a brief summary of (a) the background and status of current statutory requirements, (b) the alternatives that have been evaluated within the Executive Branch, and (c) the principle factors that should be taken

into account in deciding the auto emission standards issue. This brief review of the matter should make it clear that this is a most complex public policy decision that requires weighing and balancing a broad array of potential benefits, risks and costs for the Nation.

Background

By way of background, it should be noted that the Clean Air Act amendments of 1970 set very rigid standards and deadlines for the reduction of hydrocarbons(HC), carbon-monoxide(CO) and oxides of nitrogen(NOX) from automobiles. It proved impossible to meet the original requirements and changes have been made. The current statutory requirements are:

	HC	CO	NOX
1977	1.5	15.0	2.0
1978 and future years	.41	3.4	.4

There is broad agreement that the current statutory standards applicable to 1978 would be extremely difficult and perhaps impossible to meet, would involve increased costs and decreased mileage, and will have to be changed. These requirements as well as the 1977 requirements are now being subjected to Congressional review.

Alternatives

The review by Executive Branch agencies considered the implications of a range of alternative automobile emission requirements which might be applied to 1977 through 1981 model automobiles. Specifically, the following standards

applicable to hydrocarbons(HC), carbonmonoxide(CO) and oxides of nitrogen(NOX) emissions have been considered:

	Emissions in grams per mile		
	HC	CO	NOX
My January 30 recommendations covering 1977-81 model years	0.9	9.0	3.1
Mr. Train's March 5 conclusions			
- for 1977-79 models	1.5	15.0	2.0
- for 1980-81 models	.9	9.0	2.0
Continue standards applicable to 1975-76 models for 1977-81	1.5	15.0	3.1
Adopt Canadian 1975-76 standards for 1977-81 models	2.0	25.0	3.1
Reimpose standards applicable to 1973-74 models for 1977-81	3.0	28.0	3.1

Important Factors

There are a number of significant factors that need to be considered in evaluating the automobile emission problem:

1. Controls on auto emissions have produced significant benefits and will continue to do so in those areas that have an auto-related pollution problem. Lower pollutant levels in these areas can reduce adverse health effects and reduce photochemical oxidants (smog) which is aesthetically unpleasant and a serious respiratory irritant.

2. Automobile related pollutants are a problem in a number of metropolitan areas but are not a problem in many parts of the country. Auto emission standards, however, have been applied nationwide (except in California which

may have more stringent standards) and the added costs for pollution control equipment, maintenance, and lower gasoline mileage are paid by drivers in all areas of the country -- including those areas that do not have a problem. ____ metropolitan areas now experience concentrations of auto related pollutants which at some time during the year exceed national ambient air quality standards.

3. Controlling automobile pollutants is a technologically complex problem as illustrated by the fact that steps taken to control some pollutants from internal combustion engines have had the effect of increasing other pollutants or creating new ones. For example, controls to reduce hydrocarbons (HC) tend to increase emissions of oxides of nitrogen (NOX) -- and the reverse is also true. The most recent example is the potentially serious problem of sulfuric acid mist from cars equipped with catalytic converters installed to meet 1975-76 hydrocarbon (HC) and carbon monoxide (CO) standards. Also, experts now indicate that reduction of NOX standards below the current standards (3.1 grams per mile) could require the use of larger catalysts or catalysts with air pumps which increase sulfuric acid emissions.

4. Considerable progress has been made on automobile emissions since the 1970 Clean Air Act Amendments were passed. In the case of HC and CO, the standards applied to 1973-74 model cars reflect a 65% reduction in emission from

pre-control levels (and 1975-76 standards reflect an 83% reduction)*. In the case of NOX, EPA determined subsequent to the 1970 amendments that earlier assessments of NOX concentrations in air had been significantly overstated and that a 90% reduction in NOX emissions was not necessary to meet ambient air quality standards. However, NOX emissions have been reduced by 12% from uncontrolled levels and work is underway to find more effective ways of controlling NOX emissions from stationary sources. Stationary sources contribute more NOX than automobiles in most of the 10 metropolitan areas that could have concentrations exceeding the national standard over the next 10 years.

5. Tighter or looser auto emission standards for HC, CO or NOX within the range of alternatives available make little difference in the air quality in the areas that have an auto-related pollution problem. This little known fact is true because: (a) of progress already made in controlling emissions or (b) because automobiles are not the principal source of the pollutant involved. The contribution of HC, CO and NOX from automobiles will continue to decline as more and more cars meeting existing or past standards replace older models in the nation's fleet of automobiles. In the case of carbonmonoxide, concentrations in metropolitan areas around the country have been declining steadily. Hydrocarbon emissions (which are an ingredient of photochemical oxidants or smog) have been declining but less

rapidly than carbonmonoxide because automobiles account for only about 25% of the hydrocarbons that comes from other than natural sources. In the case of NOX, three metropolitan areas in the country experience concentrations at this time which exceed national air quality standards and this number may increase to 9 or 10 areas in the next 10 years. The growth would be due primarily to stationary sources. Tightening standards for automobiles below the current levels could produce slightly lower concentrations in the future but such tightening would not assure meeting national ambient air quality standards in the 9 or 10 metropolitan areas expected to have a problem. As indicated above, tightening of HC, CO or NOX standards is expected to increase the emission of sulfuric acid.

In addition, a reduction in vehicle miles travelled due to energy conservation actions or growth in vehicle miles travelled that is less than EPA has projected will further minimize projected auto-related pollution problems.

6. Experts believe there is little or no health impact that can be attributed with the small margin of change in ambient air quality that would result from tighter or looser HC, CO or NOX auto emission standards within the range being discussed. This is the case principally because tightening standards beyond 1973-74 levels (1975-76 levels*) will have very little impact on concentrations of these pollutants in the areas that have an auto-related pollution problem.

7. There is uncertainty concerning the health impact of sulfuric acid mist emissions from catalyst equipped cars because of insufficient data and divergent estimates of the importance of the problem among the various interests concerned. The seriousness of the sulfuric acid emissions problem will depend upon (a) the amount of emissions from catalyst equipped cars, (b) the extent to which concentrations of sulfuric acid build up in areas that impact the public, and (c) whether there is a threshold below which sulfuric acid is not injurious to health. While there is uncertainty, the Administrator of EPA and the Secretary of HEW have made it clear to me that they believe there is the potential for a significant health risk that cannot be dismissed with information now available. This assessment led the Administrator of EPA to conclude on March 5 that HC and CO standards should not be tightened at this time because tighter standards would, with technology now available, force use of catalysts and air pumps on many cars nationwide in 1977. Because of the potential risk, the Administrator also announced that he is proceeding to set an emission standard covering sulfuric acid applicable to 1979 model cars.

8. Auto emission standards have had a significant impact on miles per gallon of gasoline and on our nation's total petroleum demands and reliance on foreign sources.

a. Emission controls applied to automobiles between the years 1968 and 1974 caused a very significant reduction in miles per gallon of gasoline. It is true, however, that the use of catalytic converters on 1975 cars manufactured to meet 49-state emission standards permitted engine

adjustments which helped regain some lost gasoline mileage. The higher levels of pollution created in the retuned engines were captured and changed chemically in the catalytic converters. Cars which must meet the tighter emission standards applied in California generally get poorer gasoline mileage than similar model cars produced for other states.

b. An additional impact on petroleum demands comes from the need for unleaded gasoline for catalyst-equipped cars. The production of unleaded gasoline required changes in refinery processes which increased the quantity of crude oil required to produce each gallon of gasoline at the required octane level.

c. While there is some disagreement among Executive Branch agencies, the best information now available indicates that for the next few years emission standards tighter than current levels will involve significant gasoline mileage penalties. Specifically, with technology now available, there would be a fuel economy penalty associated with tightening the NOX standard from 3.1 to 2.0 grams per mile and there would be an additional penalty associated with tighter HC and CO standards.

d. There is also general agreement that technology is available to permit increases in fuel economy over the next few years compared to 1974 levels if 1975-76 standards are maintained through 1981 and. Even greater fuel economy improvements could be achieved within a few years if either the 1973-74 standards were reestablished

or Canadian standards were adopted.

9. In addition to poorer fuel economy, increased consumer costs resulted from higher initial car costs for emission control equipment and associated maintenance costs. Tightening of HC, CO or NOX standards from 1975-76 levels would involve additional costs. Actions to reduce sulfuric acid emissions from catalyst equipped cars would also involve additional cost.

10. Less stringent auto emission within the range now available would open up technological options for meeting standards that would not be available with tighter standards (e.g., the so-called stratified charge engines, "lean-burn" technologies and other internal combustion engine modifications). These technological options will permit fuel economy improvements that are not possible with tighter standards.

11. The basic philosophy and approach that has been used to bring about auto emission controls needs to be reconsidered in light of current conditions.

a. We should be clear about the philosophy that has been applied in the Clean Air Act auto emissions standards and the rationale behind that philosophy. Briefly, the philosophy has been that automobile companies do not have market incentives to develop technology to reduce auto emissions and would not develop such technology unless forced to do so by progressively rigid standards backed up by law and regulation. It would be difficult to

contend that progress achieved so far in controlling auto emissions would have been achieved if this approach had not been used. On the other hand, hindsight suggests we may now be faced with a potentially serious sulfuric acid problem which might not have occurred had more time been allowed to develop and assess technology before it was put into use. The wisdom of continuing a rapid "technology forcing" approach is open to question.

b. Auto emission standards have been changed frequently in recent years, allowing little time for developing and assessing alternative technologies. As standards have become more stringent, the technological changes required have become more extensive and more sophisticated. More time is required to develop and assess improved technology and bring it to a stage where it can be used on production line cars. These factors, the current economic status of the automobile industry, and the demands being placed on the industry simultaneously to meet safety standards and to improve fuel economy need to be kept in mind when the Congress considers the question of whether standards should be held stable for more years than has been the case in the recent past.

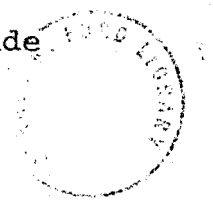
12. Prompt Congressional action is needed on auto emission standards. This matter warrants thorough discussion by the Congress and the public because of the far reaching implications. The matter also requires an early

decision by the Congress. Specifically, the Administrator of EPA advises me that in order to meet deadlines for emission testing and certification of 1977 model cars, the automobile industry will need to know 1977 emission standards by early August so that there will be time to complete design and engineering, build prototypes, complete emissions testing such as 50,000 mile endurance tests, and finally to produce new cars in adequate quantity to meet demand from the American public.

13. The broader economic implications of the auto emission decision must also be kept in mind. There undoubtedly has been some contribution to inflationary and recessionary pressures in the economy from the increased consumer costs, and poorer gasoline mileage (and greater reliance on foreign oil) resulting from emission control requirements. Inflationary and recessionary conditions have both contributed to and resulted from sharply lower sales and employment in the auto industry. Of course, any costs associated with auto emission controls must be balanced against the health, aesthetic and economic benefits that are gained from improved air quality.

14. Actions to reduce auto emissions must take into account other sources of the same pollutants. In cases where stationary sources of the same pollutants are significant contributors to a problem in the metropolitan areas of concern, it may be far more cost effective to place greater

reliance on reducing pollution from stationary sources. The problem of other sources is complicated by a growing body of opinion that natural sources of pollutants -- which cannot be controlled -- may be sufficiently important in some areas to prevent attaining national air quality standards regardless of what is done to control man-made sources.



Legislative Recommendations

Based upon the information and data that have been developed during the Executive Branch review of the auto emissions issue, I have today recommended to the Congress that the Clean Air Act be amended to set standards of _____grams per mile for HC, _____for CO, and _____for NOX. I have further recommended that these standards be kept in force for _____ years. These standards would be equivalent to those in effect for _____ model year cars. The rationale for my recommendations is quite clear.

First, the principal reason for my recommendation of less stringent HC and CO requirements than I recommended earlier is the unknown but potentially serious health effects associated with sulfuric acid emitted from catalyst equipped vehicles, and the fact that this problem is exacerbated by the use of air pumps which would be needed on most cars to meet those standards. In the absence of better data and greater agreement among experts, the potentially

serious health effects must take precedence over the known but very small potential health effect associated with the slight changes in HC and CO concentrations if HC and CO standards tighter than I have proposed were established.

Second, I have concluded that tightening of the NOX standard from 3.1 to 2.0 would be undesirable because the probable fuel economy loss and the probable need to use air injected catalyst systems to meet the 2.0 standard, which would increase sulfuric acid emissions. These potential costs are not balanced by the benefits of the very small change in ambient air quality and the imperceptible impact on health that could result from the tighter standards.

Third, the marginal benefits in those metropolitan areas with an auto related pollution problem which might result from tighter standards are very small. Based upon the information now available, those benefits do not appear to justify the large additional costs and risks that would be imposed nationwide. Furthermore, the standards I have proposed preserve technological approaches to pollution control that are cheaper in terms of fuel requirements and consumer costs which would not be available under tighter standards.

Fourth, I have proposed that the standards remain constant for _____ years so that the industry is not distracted unnecessarily from efforts to improve safety and fuel

economy. A pause for this period will not have significant adverse effects on our progress in improving air quality. It will also provide time for industry and the Government to help avoid costly errors and increase the chances of meeting fuel economy, safety and consumer cost objectives.

Administrative Actions

Because of the far reaching impact that automobile emission standards can have on all of the factors I have discussed, I feel very strongly that we should have known a great deal about their impact before standards were set.

I believe the Nation should not be subjected to far reaching Federal actions such as establishment of auto emission standards which required the catalyst without far better information than was available before this action was taken.

Current law requires that an Environmental Impact Statement be prepared showing the expected environmental impact of major Federal actions significantly affecting the quality of the human environment. Somewhat ironically, that requirement has not applied to Federal pollution control actions, such as the setting of auto emission standards which led to the catalyst technology. If such a requirement had been followed we might have known in advance of the health, environmental and economic implications of auto emission standards which led to the installation of catalytic converters.

Because of my concern over the potentially unforseen results of Federal actions, I have directed previously that inflationary impact statements be prepared on significant Federal actions affecting the economy. I intend to continue pursuing that basic approach to Federal decision making.