SUMMARY OF BI-PARTISAN SENATE CLEAN AIR ACT AGREEMENT

NONATTAINMENT OF HEALTH STANDARDS FOR OZONE

For the past month, representatives of the Administration and members of the Senate from both parties have been meeting to discuss proposed revisions to the Clean Air Act. Today, the Senators and the Administration reached an agreement to support on the Senate floor a series of provisions encompasing virtually all of the major areas by the Act. A summary of those provisions follows.

PROVISIONS FOR ATTAINING HEALTHY AIR STANDARDS

Currently over 100 areas in the United States do not meet health standards under the Clean Air Act for ozone (smog); more than 40 areas are failing to attain the carbon monoxide standard; and an estimated 58 areas exceed the health standard for particulate matter (PM-10). State and local governments have a major responsibility for implementing measures that will reduce pollution to levels that do not threaten health; the Federal government sets certain minimum requirements and assures that States carry out their responsibilities.

Title I of the agreement divides areas that fail to meet any one of the pollutant standards listed above into categories, depending on the severity of the pollution problem, and sets out requirements of different levels of stringency for each category. Following is a summary of the provisions of title I:

- Depending on the severity of the pollution problem, nonattainment areas for any of the pollutants must attain the health standard within five, ten, or fifteen years (twenty years for Los Angeles) for ozone.

- Nonattainment areas for each of the pollutants must achieve specified increments of progress from the present until the health standard is achieved. This new requirement will ensure early ozone reductions and, for the first time, steady progress toward meeting the standard. In the case of ozone, areas must reduce emissions of volatile organic compounds (VOCs), a precursor of ozone, by 4% per year for the first six years after the amendments are enacted, and 3% per year (with waivers for certain specified conditions) thereafter until the standard is attained.

- In areas exceeding the standard for ozone, service stations dispensing more than 20,000 gallons per month are required to install equipment on gasoline pumps to reduce emissions of VOCs.

- Vehicle inspection and maintenance programs must be upgraded in ozone and carbon monoxide areas that already have such programs and must be instituted in most other areas that do not already have them.

- The Administrator of the Environmental Protection Agency is required to impose one of the following sanctions in an area that fails to prepare or implement a plan that achieves a health-based air quality standard: a ban on construction of new sources of a pollutant, limited use of Federal highway funds, a ban on provision of new drinking water hookups, or withholding of Federal air pollution funds.

- The definition of major sources in current law is retained, but any construction ban imposed in an area will apply to sources that emit more than 25 tons of VOCs.

- Sources will continue to be allowed to "net out" increases and decreases of emissions when a plant is modified.

- When a State fails to develop a plan that meets the requirements of the law, the Environmental Protection Agency is <u>required</u> to impose one new Federal Implementation Plan control measure each year the failure continues.

- The Environmental Protection Agency is required to issue control requirements for a number of sources of pollution, including commercial and consumer products.

- Polluters are required to pay fees to cover the cost of a State or local air pollution control agency's permitting program and a fee to pay the costs reasonably incurred by EPA in regulating the pollution.

TITLE II: MOTOR VEHICLE-RELATED PROVISIONS

Cars and trucks currently account for almost 50% of the smog (ozone) pollution and 90% of the carbon monoxide pollution in urban areas in the United States. They are also responsible for significant emissions of toxic pollutants. It is not only the vehicles but the fuel they use that cause pollution.

The agreement contains the following measures to reduce these pollutants:

<u>Tailpipe Standards for Cars and Trucks</u>

- Auto manufacturers are required to reduce tailpipe emissions of hydrocarbons and oxides of nitrogen, which form smog, by 22% and 60%, respectively, beginning with 40% of the vehicles

sold in 1993 and increasing to 100% of vehicles sold in 1995. Comparable reductions are required for vehicle classified as light trucks such as vans and pickups.

- If more than 11 of 27 cities currently seriously polluted do not attain the health standard by the end of 2001, a second round of reduction emissions from cars--equal to an additional 50% reduction in CO, hydrocarbon and NOx--will be required beginning with all cars sold after October 1, 2003.

- In addition, if pollution is greater than 25% above the health based standard in the year 2000 in any area currently severely polluted by ozone, beginning in 2004 cars sold in that area must meet more stringent emission standards for NOx, CO, and hydrocarbons.

- EPA will study and recommend to Congress alternative methods to achieve the tailpipe emission reductions provided for in model year 2004. Congress will consider adopting alternative methods under expedited procedures.

Other Requirements

- Vehicle manufacturers must install systems to alert drivers when an emission control system is malfunctioning.

- Auto manufacturers are required to install canisters on vehicles to capture hydrocarbons that would otherwise be emitted into the atmosphere during refueling, but the Administrator of EPA is authorized to suspend for two years the requirement if a study to be carried out by the Department of Transportation determines that the refueling systems are not safe. Based on the study, Congress will vote under expecited procedures on whether to rescind the requirement.

- Fuels sold in areas with unhealthy leels of carbon monoxide will be required to contain a specified oxygen content, which reduces emissions of carbon monoxide from vehicles. The oxygen content can be increased through additives such as ethanol, which is made from corn or other agricultural products, or derivatives of natural gas.

- Requires new transit buses, beginning in 1991, to use cleaner fuel such as natural gas or methanol.

Clean Fuels Standards

Phase I Program

-- The program begins with Model Year 1995 vehicles sold in the nine cities with the most severe ozone nonattainment problem. All new vehicles sold in those cities will achieve an overall reduction in emissions to a level not more than .75 grams per mile ozone-forming emissions. The current fleet of passenger cars emit approximately 2.8 gpm. The Phase I vehicles are also to achieve a 12% reduction in air toxic emissions.

-- The emissions reductions will be met primarily through the use of cleaner fuels. By January 1992, EPA is to issue specifications for various alternative fuels, including ethanol, methanol, CNG, electricity, and LPG, as well as reformulated gasoline that will achieve the emissions reductions required used in conventional vehicles. The preformance standard will be fuel neutral.

Phase II Program

-- The standards are tightened beginning in MY 1999. The ozone-forming emissions must not exceed .66 gpm in-use and the toxics emissions reduction is to be 27% below emissions from conventional vehicles. EPA has the authority to reduce the toxics emissions reduction requirement to 18% if 27% is not achievable.

-- As with Phase I, the emissions reductions can be achieved primarily through use of alternative fuels.

Role of the States

-- Implementation of the alternative fuels program will be undertaken aspart on State Implementation Plans.

-- States can "opt-up" requiring that cleaner cars (like the fleet car described below) be sold in larger quantities.

-- States can "opt-in" allowing cities other than the 9 specified in the bill with nonattainment problems to join the program.

-- California may develop its own alternative fuels program (and one has been proposed). Other states may adopt the California model, provided that their implementation plans contain incentives to encourage vehicle sales and use.

-- Fuel suppliers will make available for sale alternative fuels at conveniently located service stations.

Fleets

-- A program for fleet vehicles is included in the agreement. Fleet vehicles covered by the program would be substantially cleaner than conventional vehicles achieving ozone-forming emission reductions of approximately 80% (an in-use emissions rate of .25 gpm HC) and toxics reductions of 75%.

-- The alternative fuels program would apply first to fleets owned by Federal agencies and used in ozone nonattainment areas. The program would be phased in beginning in 1995.

-- Beginning in 1997 the fleet program would apply to fleet vehicles operated in the private sector. Fleets of more than 20 vehicles (which are centrally fueled and maintained) operating in the 9 cities with the most severe ozone nonattainment problems would be covered and 30% of new vehicle purchases must meet the alternative fuels standards.

-- Auto manufacturers who sell cleaner vehicles which operate above the standards will receive credits under a banking trading program.

Title III. Air Toxics Provisions

Air Toxics Provisions

Routine Emissions from Major Sources

List of Pollutants and Source Categories:

-- The agreement contains a list of approximately 200 hazardous air pollutants taken from the Administration's bill.

-- EPA is to establish a list of source categories (chemical plants, oil refineries, coke ovens, cotton gins, smelters, etc.) for the purpose of promulgating standards. Any source emitting any one of the listed pollutants in quantities greater than 10 tons or any combination greater than 25 tons is classified as a major source and subject to regulation under the bill.

-- EPA is to revise the list of pollutants from time to time and act upon petitions to add or delete substances from the list.

MACT Standard

-- For each category of sources, EPA will promulgate a standard which requires the installation of maximum achievable control technology (MACT).

-- Standards are to be promulgated within 2, 3, 5, and 10 years of date of enactment, depending upon the source category. The standards for approximately a dozen organic solvents are required within 2 years.

-- Existing sources must comply with MACT standards not later than 3 years after promulgation.

-- MACT standards are not required for source categories that pose less than a 1-in-1,000,000 risk of cancer.

-- With respect to electric utility boilers, only particulate and mercury emissions are to be regulated with a MACT standard. EPA is not authorized to require flue gas scrubbers to control emissions of hazardous air pollutants from utility boilers.

Voluntary Pollution Prevention Reduction

-- Any source making an early reduction of 90% below 1985 emissions levels shall be exempt from the MACT standards.

Residual Risk

-- The agreement contains provisions to reduce any significant risk to public health which may remain after the application of MACT.

-- If, after installation of MACT, a significant risk remains, EPA must promulgate health-based standards 5 years after initial promulgation of the MACT standard.

-- The National Academy of Sciences is to conduct a study of the risk assessment methods currently used by EPA and alternative methods in setting health standards. EPA is to revise its Guidelines for Carcinogenic Risk Assessment based on the NAS study.

-- A commission to study the use of risk assessment methods in controlling hazardous air pollutants is to be established. The commission is to report to the Congress on residual risk policy questions. Expedited legislative procedures are provided to assure a vote in the Congress on legislation with respect to any recommendations made by the commission.

-- If Congress does not choose a residual risk standard after the Commission reports, two residual risk standards for carcinogens are automatically adopted. The goal is a cancer risk not greater than 1-in-1,000,000 for those persons most exposed to emissions from a source. The upper limit on cancer risk is 1-in-10,000.

-- The owner or operator of a source may provide a site-specific health assessment of pollutants released from the source to show the actual impact of those pollutants on public health within the vicinity of the source. Sources which impose actual cancer risks exceeding 1-in-10,000 must take mitigation measures or shutdown. Sources must use available technology to reduce actual cancer risks striving to reach the goal of cancer risk not exceeding 1-in-1,000,000 to the most exposed actual person.

-- Steel plants installing the most stringent level of control on emissions from coke ovens before 1995 are given an extension to 2020 before the residual risk health standards apply.

Routine Emissions from Area Sources

-- Area sources are small industrial or commercial operations such as dry cleaners, service stations, wood stoves which emit air toxics.

-- Based on the list of hazardous air pollutants, EPA can list an area source category just as the Agency would list a major source category and require MACT. EPA also is authorized to require generally achievable control technology for area sources, which is less stringent than MACT.

-- The agreement establishes an area source control program to reduce the risks from area sources. Under the program EPA is to conduct research on area sources of air toxics, which is to include a monitoring program, and an inventory of the sources of those toxics.

-- Five years after enactment, EPA is to propose a national urban air toxics strategy to significantly reduce risks associated with urban air toxics from areas sources. The goal of the strategy is to reduce cancer cases attributable to air toxics by 75%. EPA is to report on reductions achieved in 8 and 10 year intervals.

Sudden, Accidental Releases

-- The agreement contains a program to reduce the likelihood of catastrophic, chemical accidents.

-- A general duty to operate a safe facility is imposed on the owner or operator of each facility handling extremely hazardous substances.

-- The agreement establishes a Chemical Safety Board to investigate chemical accidents, similar to the National Transportation Safety Board. The Board would make recommendations to EPA on measures which can be taken to reduce the likelihood of accidents in particular industries.

-- EPA is authorized to promulgate accident prevention regulations.

TITLE IV: ACID RAIN PROVISION

Acid rain continues to pose a grave threat to the environment. The agreement incorporates a system of SO2 emissions trading and a cap on SO2 emissions at 10 million tons below 1980 levels so as to allow SO2 emission reductions to be achieved in the least costly way, and to ensure the permanence of these reductions.

Reduction Requirements for Sulfur Dioxide

- The agreement achieves the same total of sulfur dioxide reductions as originally proposed by President Bush, ultimately reducing SO2 by 10 million tons below 1980 levels each year.

- Both Phase I and Phase II begin one year earlier than originally proposed by President Bush.

- Annual sulfur dioxide emissions are capped beginning in the year 2000.

- In Phase I, which begins January 1, 1995, utility power plants emitting at a rate above 2.5 pounds of sulfur dioxide per million Btu (about 111 plants) will have to reduce their emissions to a level equal to 2.5 lbs./mmBtu multiplied by their average 1985-87 fuel consumption measured in Btu.

- Plants that use certain control technologies to meet their Phase I reduction requirements may either postpone compliance until 1997 or receive early-reduction bonus allowances for reductions they achieve between 1995 and 1997. In addition, Phase I plants that use certain control technologies will also receive two allowances for every ton of reduction they achieve below a 1.2 lbs./mmBtu level during Phase I.

- In Phase II, which begins January 1, 2000, all utility power plants emitting at a rate above 1.2 lbs./mmBtu will have to reduce emissions to a level equal to 1.2 lbs./mmBtu multiplied by their average 1985-87 fuel consumption measured in Btu.

- Nationwide, plants that emit SO2 at a rate below 1.2 will be able to increase their emissions between now and the year 2000 by roughly 20% and will then be limited to that level in order to maintain the nationwide cap on SO2 emissions.

- Bonus allowances are distributed to accommodate growth by units in States with emissions below 0.8 and by units that have experienced substantially increased utilization in the last five years.

- The 1977 "percentage reduction" requirement for coal is repealed once the emissions cap goes into effect.

Marketable Allowances

- In addition to its pollution control permit, each source will receive allowances equal to the tons of pollution it is permitted to emit.

- If a source reduces its pollution more than required, it will have left-over allowances it can sell to another source -- which would permit the second source to emit more than required while remaining in compliance. This ensures that total reductions will be achieved in the most cost-effective way and that reduction costs will be allocated in a fair way.

Utility NOx Emissions

-- The agreement achieves the same NOx reductions as S. 1630 in the year 2005, and by providing for earlier NOx reductions provides greater NOx reductions in the year 2000.

-- There is no NOx/SO2 trading and no allowance system established for NOx.

-- Not later than 1993, EPA is required to establish performance standards under which utilities, required to reduce sulfur dioxide emissions in Phase I are also required to control their NOx emissions in Phase I based on the performance standards for certain boiler types. The emission standards will be based on low NOx burner technology.

-- Not later than 1997, EPA is required to establish performance standards for all remaining types of utility boilers. Remaining affected sources under the acid rain title must meet these standards by the Phase II deadline. This standard will also be set based on low NOx burners, and will be updated as new technologies are developed.

-- EPA is required to promulgate a revised NOx New Source Performance Standard for utility boilers.

Clean Coal Technology

-- Temporary clean coal technology demonstration projects (those operating for 5 years or less) are exempt from the requirements of Title I of the Clean Air Act.

-- Permanent demonstration projects that are retrofits are presumed not to be major modifications.

-- Permanent demonstration repowering projects are exempt from Part C and section 111 requirements if their potential emissions for any criteria pollutant do not increase over the potential emissions before the project.

-- Non-demonstration repowering clean coal technologies are exempt from New Source Review if actual emissions for any criteria pollutant do not increase over previous emissions. If there is an increase in emissions, States are encouraged to give such projects expedited review.

Permits and Enforcement

There remain significant disagreement between the Administration and the Senate on permits and enforcement. Senate and Admninistration staff have been meeting, but have not yet concluded work on changes to those titles. In the event that agreement on outstanding differences cannot be reached before floor consideration of the clean air bill resumes, the parties to the agreement would not be bound to support changes to the permit and enforcement titles.

OTHER ISSUES

Chloroflurocarbons

S. 1630 contained a title, as amended, to phase out the use and production of chlorofleurocarbons. The title was not covered by the agreement and the parties reserve the right to cnsider changes to its provisions.

Incinerators

S. 1630 contained provisions to regulate emissions and ash from waste incinerators. These provisions were not covered by

the agreement and the parties reserve the right to consider changes to them.

Withdrawal/Redaction Sheet
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Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01. Report	The Clean Air Negotiations (3 pp.)	3/9/90	P/5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Clean Air (2 of 3) (1990) [2]

Open on Expiration of PRA
(Document Follows)
By JP (NLGB) on 5/12/05

Date Closed:	12/7/2004	**OA/ID Number:**	29148-003
FOIA/SYS Case #:	1998-0004-F[1]	**Appeal Case #:**	
Re-review Case #:	2005-0426-S	**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
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RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]
P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
P-3 Release would violate a Federal statute [(a)(3) of the PRA]
P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [a)(5) of the PRA]
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(b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
(b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
(b)(9) Release would disclose geological or geophysical information

The Clean Air Negotiations
March 9, 1990

The Context

- The Administration and the Senate leadership negotiated in good faith a finely balanced package of measures within (but only barely) the estimated cost constraints outlined in the President's January 19, 1990 letter.

- During the course of those negotiations Midwest and coal state Senators were given the opportunity of raising their concerns and advancing their proposals.

- The Midwest and coal states were given several benefits in the structure of the emissions trading system for sulfur dioxide reductions:

  - Byrd-Bond in Phase I

  - The Mitchell Compromise in Phase II

- Senators Metzenbaum and others advanced proposals for investment tax credits for Midwest scrubbers that were rejected.

- Senator Mitchell on three occasions invited Senator Byrd to advance any proposals he wished specifically relating to displaced coal miners so that they could be considered.

- Byrd decided not to advance his proposals but made clear in the press conference announcing the agreement that while he would not filibuster the agreement he would offer some additional amendments.

The Current Situation

- The votes on amendments to date have revealed little appetite on the part of Senators to vote against clean air (the HCFC amendment outside the agreement passed 80-16).

- But Mitchell and Dole have been able to keep the agreement intact against the Lautenberg thrust from the left on air toxics (65-33). Several members were switching votes at the end to take advantage of the opportunity for a "free" environmental vote.

- Byrd skillfully lined up Senate Democrats and Midwest Republicans, and members of the Appropriations Committee from both sides of the aisle.

- He picked off McConnell, Bond, Danforth, Coats, Heinz, Specter (Lugar is a question mark);

- He is applying substantial pressure on appropriations committee members who will be hard pressed to resist him including Hatfield, Stevens, Garn, (possibly Rudman), and several others.

- Mitchell has only got approximately 12 sure Democrat votes against Bryd.

o Mitchell recognizes that the Bryd amendment is "bad public policy" and that it is inconsistent with the agreement.

o He would like, but does not really expect, the administration to cut some deal with Senator Byrd that would give him (Byrd) a face saving provision, such as a program for displaced coal miners patterned after Trade Adjustment Assistance.

Options

1. All-out defeat Byrd Amendment Effort.

   - This would require intense administration lobbying beginning today to shore up wavering supporters and to peel off those leaning toward Byrd.

   - It would require an all-out effort by Senator Mitchell to peel off Democrats now committed to Byrd.

   - This would prove to be a difficult test of Mitchell's leadership.

   - It is unclear whether this will succeed and will require at least as much, if not more, from us as from Mitchell if it is to succeed.

2. Resist Byrd Amendment with agreement to drop in conference if it passes.

   - This avoids negotiating with Byrd for a scaled back version of worker assistance.

   - It would not involve high level White House intervention to influence Republican Senators.

   - It would almost certainly result in passage of the Byrd amendment and the extra baggage entails in

conference.

- There is no iron-clad assurance that this can be dropped in conference or a similar provision being included during House consideration.

3. Fall-Back Strategy: Seek Accommodation with Byrd

- Accept Mitchell's request to come up with a face-saving compromise with Byrd such as a variation on trade adjustment assistance.

- Given Byrd's current strength and his assessment of it, it is unclear that he would be willing to accept anything as scaled back as the Administration could offer.

- In preliminary discussions with Byrd's staff yesterday undertaken at Senator Dole's request, the Byrd forces exhibited no interest in any compromise.

- Such a compromise would greatly enhance the likelihood of peeling off both Republicans and Democrats from the Byrd Amendment. But, it would also make retreating in conference much more difficult, and would encourage similar provisions in the House.

Alliance for Acid Rain Control

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THE SHARP PROPOSAL: POLLUTION PAYS

Instead of being a limited, "bottom-line" subsidy, the Sharp Proposal contains five new forms of subsidy to the lower Midwest:

- It creates a new nationwide tax of $55/ton on industrial SO2 emissions to assist the lower Midwest, where electricity rates are well below the national average. The tax will produce more than $3 billion over its first 10 years. Its passage will establish the principle that a tax subsidy scheme is justified and would open the possibility that the tax could be expanded to utilities in conference.

- It subsidizes the use of scrubbers and then compounds the subsidy by allowing the owners of these scrubbers to set the price for the sale of the resulting allowances in the auction provision.

- It requires three major power plants which provide electricity to the federal government to scrub at federal expense. It turns over the resulting 262,000 tons of allowances to the lower Midwestern states, a subsidy of at least $150 million.

- It broadens the definition of clean coal technology and repowering so that scrubbers could be included and then pulls the funding away from current projects to assist utilities on the phase I 107 plant list.

- It confiscates noncompliance penalties likely to be collected from recalcitrant midwestern plants and returns the money to the Midwest as part of the tax and subsidy scheme to finance scrubbers.

Instead of increasing environmental protection as its proponents claim, the Sharp proposal would "bust the cap".

- The three power plants providing 75% of their power to the federal government are not required to maintain allowances. This effectively transfers these allowances to other dirty plants through the bills provision to redistribute any unallocated allowances, busting the cap by at least 133,000 tons.

- Gas-fired plants which experience curtailments can simply bank their existing allowances for sale or use later, because the bill allows them to operate without allowances during periods of curtailment or supply interruption, busting the cap by as much as 150,000 tons.

- The broader definition of clean coal technology and repowering translates into a larger set of plants becoming eligible for the three year repowering deadline extension. This could mean a net loss of 1 - 2 million tons of cumulative SO2 reductions, yet another cap buster.

- The definition of an "unit" under the bill excludes turbine technologies. This means new and repowered units using gas turbines are not "affected units" and their emissions are also exempt from the requirement for obtaining offsetting reductions, yet another cap buster.

- The proposal defines qualifying small power production facilities as outside the bill's environmental controls - creating a new avenue to increasing emissions "off-budget" and further busting the cap.

Instead of providing <u>certain</u> relief for clean states from the dangers of allowance hoarding and from the difficulty in obtaining allowances for new growth, the Sharp proposal creates no real protection from hoarding and provides only the "appearance" of adequate allowances for growth:

- The Sharp proposal provides no open auction of allowances for IPPs and growing utilities. The only auction provision is negated by the fact that the sellers (lower midwestern utilities that have already received subsidy payments) can set a minimum price below which they will not sell, even though the allowances that they would be selling were financed through the SO2 tax and subsidy scheme.

- The abundant allowances provided to clean units under the proposal's provisions for distributing allowances to clean units are more apparent than real. The provision clearly allocates allowances well in excess of the 3.8 million ton cap. The proposal requires that the number of allowances allocated to clean units be ratchetted down to bring the totals into compliance with the 3.8 million ton limit. This will likely leave class of '85 units (other than gas units) with fewer allowances than they would have received under the original Administration bill.

I.

Case study By Congressional Research Service

Reference here is to Ky.

An example of the potential magnitude of socio-economic cost of acid rain legislation may illustrate why coal mining jobs have received an elevated position in the acid rain debate. According to a least-cost analysis of an eight million ton sulfur dioxide reduction, these five counties would lose about 40 percent of their production.

THE CHIEF of STAFF has seen

As indicated, one out of every four jobs in the area is in the coal industry. Indeed, it is unclear whether the communities in these counties would exist without coal. For example, the second largest category of employment, services, and the third largest, government (mostly school teachers), are very closely related to supporting the coal industry.

However, perhaps more important from an economic standpoint is the distribution of personal income. As indicated, those mining jobs account for over 40 percent of the personal income within the five counties. The top three categories account for two-thirds of the area's personal income. Hence, in discussing mining jobs, one is discussing more than just individual mining jobs, and comparing them to the cost of FGD. Rather, one is talking about the economic viability of some communities. In this context, proposals for relocation and retraining may not offer viable solutions.

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THE CHIEF of STAFF has seen

MEMORANDUM

February 28, 1990

TO: Governor Sununu

FROM: Ned Helme, Chris Neme

RE: Phil Sharp's acid rain subsidy strategy

Over the last day or two Phil Sharp has been meeting individually with members of his subcommittee to try to convince them to support his latest acid rain subsidy proposal. In a nutshell, the proposal he has been floating would impose a sulfur dioxide emissions (SO2) tax of $55/ton on all industrial (non-utility) sources of SO2. The tax would generate about $300 million a year and the money would be made available to subsidize either scrubbers or co-firing with natural gas on midwestern power plants.

Sharp is using two pitches to sell the proposal. First, he is trying to buy off oil & gas state members by making the subsidy available for co-firing with natural gas. Secondly, he is looking for sympathy votes by arguing that he is now asking for only a small fraction of what he really needs and appealing to members' loyalty to and friendship with him. We are worried that he is making some headway.

In our view, there are four key swing Republicans on the subcommittee: Barton, Callahan, Fields and Moorhead. If you could make calls to them to help solidify their opposition to any and all Sharp subsidy proposals, we think we can win when mark-up resumes next week. We are particularly worried about the oil & gas members. They should be leary of an industrial SO2 tax because oil refineries are some of the largest industrial emitters of SO2. However, you should be aware that Dingell may be quietly working with Sharp and making his support for the oil & gas state alternative fuels proposals contingent on their support for the Sharp subsidy proposal.

CONSUMERS' Research
ANALYZING PRODUCTS, SERVICES AND CONSUMER ISSUES MAGAZINE

February 14, 1990

The Hon. John Sununu
Chief of Staff
The White House
1600 Pennsylvania Ave., N.W.
Washington, D.C. 20500

Dear Gov. Sununu:

I thought the enclosed special report on the environment would be of interest to you. Our report, which will appear on the March issue of Consumers' Research magazine, notes the following:

* The quality of the nation's air is improving, not getting worse.

* The areas that suffer from ozone pollution, acid rain, or air toxics are relatively small.

* The effects of air pollution are relatively minor, both in terms of health effects and the deterioration of the environment.

* The benefits from further reductions of air pollutants are not known for certain.

* Some of the proposals to reduce air pollution, such as alternative fuels, increased CAFE standards, etc., might reduce consumer health and safety.

* The costs to consumers could be enormous, up to $1,700 a year per household.

It is worth noting that most of this information comes from federal sources.

I hope that our presentation proves useful as you work with Congress and the President on the various clean air proposals.

Sincerely,

John W. Merline
Executive Editor

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PUBLISHER'S PAGE

Airing The Truth

Our credo here at *CR* is that what the consumer needs most of all is accurate information.

This is obviously true with respect to products, services, advertisements, health claims and other items of direct consumption. If consumers don't have accurate data about such matters, they can be misled or swindled. Conversely, if they do have accurate data, they can do a pretty good job of protecting themselves.

The same applies to broader issues of public policy. A common development in recent years has been widespread demand for government action concerning this or that asserted problem, often without a very solid factual basis for what is being demanded.

If anything, government action in the absence of the facts is even more hazardous than similar action by individuals. It tends to affect all of us, often imposing enormous costs. Frequently it winds up not addressing the underlying problem, and sometimes it creates more serious problems than those it was supposed to cure.

It is with those thoughts in mind that we present this month a special feature on the subject of clean air, and the myriad proposals that have been heard of late concerning it. As this feature suggests, discussion of this topic has often been distinguished by a lack of solid data, and in some cases by outright misinformation.

Our hope in presenting this feature is to give our readers a solid factual basis for understanding the condition of our air, and the various threats to it supposedly afflicting us. Only if there is widespread understanding of these matters is there much likelihood of sensible policies to enhance our well-being as consumers.

Best wishes,

M. Stanton Evans
Publisher

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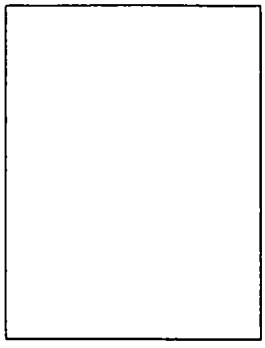


COVER: Photo courtesy of the South Coast Air Quality Management District, El Monte, Calif.

DEPARTMENTS

CONTENTS

Special Report:

Special Report: Part 1

How Clean Is The Air We Breathe?

This year, Congress seeks to pass legislation aimed at cleaning the air which may cost as much as $104 billion annually, according to one estimate. That would work out to a price of roughly $1,700 a year per household. This is on top of the $32 billion ($500 a year per household) currently spent annually to clean the air.

Concern about this issue is readily understandable, especially given the enormous publicity accorded it, and the fright associated with the idea of unseen toxins in the air we breathe. Recent studies from the federal government and other scientific sources indicate, however, that pending proposals on this topic might do little to clean up the atmosphere or improve the overall health of the nation, and might, in some instances, actually reduce health.

Because of the importance of clean air on the one hand, and potentially burdensome costs to consumers on the other, *CR* publishes below an extensive report on the various types of air pollution, the hazards posed by them, and the costs to consumers to clean these pollutants up under the proposals Congress is considering at this writing.

In each section one type of air pollutant is examined. These pollutants are ozone pollution (smog), acid rain, and toxic pollutants.

Before delving into these matters, however, some general comments might prove helpful to readers.

Air Quality Improving. First, some perspective is required. Despite the impression left by many media reports, the quality of air in the United States has been steadily improving in the last 10 years. According to the Environmental Protection Agency (EPA), from 1978 to 1987 reductions were made in lead (down 94%), sulfur dioxide, which is the chief component of acid rain (down 35%), carbon monoxide (down 25%), ozone pollution (down 17%), etc. (See chart, page 11.)

Few Are At Risk. In each case, the pollutants affect relatively small portions of the country. As our report on ozone pollution points out, only two cities, Los Angeles and Houston, suffer from chronic ozone pollution. In the case of acid rain, its effects are concentrated primarily in the Northeast and are believed to have caused chronic acidity in a small fraction of lakes, even in those areas with large amounts of acid rain (about 5% of the lakes in the Northeast are acidic). Equally to the point, there are major sources of acidity in lakes (as in Florida) that have nothing do with acid rain.

"Despite the impression left by many media reports, the quality of air in the United States has been steadily improving in the last 10 years."

According to health experts, the health effects of ozone pollution and acid rain are, for the most part, short term and minor. Little is known as to their long-term health effects.

Even toxic air pollutants affect a tiny percentage of the population (primarily those living near industrial plants), and cause few cancers compared to the total number of cancer cases reported (3,000 out of a total of 900,000 cancers annually). And even the 3,000 number is, according to some scientists, inflated.

Benefits of Cleaner Air. What will the benefits be from cleaning up the air? Determining that is complicated by the fact that so little is known about the health effects of current air standards. The EPA, for instance, claims that the Bush Administration's proposal to reduce toxic air emissions will result in an 80% decline in cancers caused by these pollutants.

But, because the EPA is so unsure of the original figure, determining the true health benefit is nearly impossible.

Further, industrial air pollution may account for only a small percentage of toxics to which people are exposed. According to Lance Wallace, a scientist with the EPA: "It's long been believed that air pollutants in major urban-industrial areas may increase the risk of cancer." However,

the results of his studies indicate "that what we thought were major sources of pollution are, in fact, quite minor for many chemicals, often accounting for less than 25% of nationwide exposures.

"Personal activities and consumer products, rather than exposure from living in an industrial area, account for the bulk of our exposures to most of the toxic chemicals we studied."

The study examined exposures to four "volatile organic compounds" suspected of being carcinogens. According to Wallace: "If these studies are correct, it may not be very effective to regulate outdoor air for (these) carcinogens, since so little of our exposure to volatile organic compounds is provided by that route."

For example, one of these compounds, benzene, is believed to cause 960 cases of leukemia annually. Of these, Wallace calculates that 99% are from exposures to benzene in the home. Other EPA estimates indicate that industrial benzene emissions cause only about four leukemias per year. Nevertheless, the Bush Administration calls for cleaning up industrial benzene at a cost of about $1.2 billion annually.

Health Trade-offs. Calculating overall improvements in health is further complicated by the fact that trade-offs exist in some of the proposals. For example, switching fuels to reduce smog might introduce other toxins into the air, such as formaldehyde. And, some fuels are more highly toxic than gasoline, increasing the number of accidents and fatalities related to fuel use.

Mandating improvements in the fuel economy of cars (to reduce auto emissions) could result in greater highway fatalities as more people drive economical small cars, which are more dangerous in highway accidents. According to one report, the 1989 increase in the Coporate Average Fuel Economy (CAFE) Standards, as they are called, from 26.5 miles per gallon to 27.5 miles per gallon could increase occupant fatalities by as much as 16%. (See "The Government's Mandating Less-Safe Cars," *CR*, November 1988.) Increasing the CAFE standards to reduce pollution further, as is currently being proposed in Congress, will likely result in a greater number of highway fatalities.

High Costs. While benefits from improved air pollution standards might be minor, the costs can be enormous. According to the EPA, the cost of the Bush Administration's clean air proposal would be around $20 billion annually. More restrictive standards proposed by Congress push the costs to astronomical proportions (as high as $104 billion annually, according to the Business Roundtable, an industry group), without a corresponding reduction in pollution.

The Air Is Getting Cleaner

Pollutant	% Change 1970-87	% Change 1978-87	% Change 1983-87
Particulate Matter	−62%	−23%	−1%
Sulfur Dioxide	NA	−35	−10
Sulfur Oxides	−28	−17	−1
Nitrogen Dioxide	NA	−12	+2
Nitrogen Oxides	−7	−8	+3
Relative Violatile Organic Compounds	−25	NA	NA
Carbon Monoxide	−39	−25	−14
Lead	−96	−94	−83
Ozone	NA	−17	−4

NA=Data not available for this time span.
SOURCE: The Evironmental Protection Agency, "National Air Quality Emissions Trends Report, 1987."

For example, the Senate has proposed stricter emissions standards for automobiles to cut down on smog. According to Sen. Carl Levin (D-Mich.), the Senate proposal would reduce auto emissions by 2% over the Bush Administration's proposal, but would cost about $6.5 billion more each year than Bush's $1 billion plan. As Sen. Levin put it: "That is a 600% increase in cost for a 2% increase in benefits." According to syndicated columnist Warren Brookes, the Senate proposal could raise car prices by as much as $1,000 a car.

Reducing acid rain has similar costs. According to the Edison Electric Institute, consumers in some states could end up paying as much as $590 more *each year* in their electric bills. Looked at in terms of improving the quality of lakes, the National Acid Precipitation Assessment Program (NAPAP), which was set up by Congress to study acid rain, has calculated that reducing acid rain would deacidify only 26 lakes in the Northeast in the next 20 years, and only 75 lakes after 50 years (while doing nothing about the numerous lakes that are acidic for other reasons).

Yet the cost of such a program, according to the EPA, would be about $4 billion per year. That amounts to $3 billion per lake over 20 years, and $2.7 billion per lake over 50 years. According to Brookes, "the 20-year cost of liming the average lake is less than $50,000." And, while liming will definitely deacidify a lake, it is not known which lakes will benefit from a reduction in acid rain.

An in-depth examination of these issues follows, beginning with a report on ozone pollution, and followed by articles on acid rain and industrial air toxic pollution.

—John W. Merline

Special Report: Part 2

Clearing The Air On Urban Smog

Peter L. Spencer

From all the attention given it by the media and the federal government, smog in our cities would appear to be a serious and pervasive problem—and one that is getting worse.

"The problem is immense. We must address it now," said Environmental Protection Agency (EPA) Administrator William K. Reilly recently. Congress, at this writing, is hard at work on amendments to the Clean Air Act that aim to reduce urban ozone—the main component of smog—to improve this situation. Requiring tighter controls on industry, auto emissions, and an increase in the use of alternative "clean burning" fuels, among others, these amendments are expected to cost between $7 billion and $20 billion a year to implement—the brunt of which will be borne by consumers.

". . . the EPA report found the number of days in which the federal air-quality standard for ozone was exceeded declined on average 38% over the decade."

Is the problem so urgent as official pronouncements would have us believe? Are the proposed solutions worth the cost?

A review of the information about ozone pollution shows the problem to be (a) less severe than we have been led to believe, (b) improving, not getting worse, and (c) of a radically different nature from that suggested by the usual publicity on the subject.

Urban ozone is not emitted directly into the air, but is produced by a complex chemical/physical reaction involving sunlight, nitrogen oxide (NOx), and volatile organic compounds (VOCs). When measuring pollution, therefore, it is possible to track trends both in ozone levels and these chemical "precursors." And doing this reveals an improving situation, not a deteriorating one.

According to the EPA's latest analysis of air quality trends (released in April 1989) the levels of NOx, VOCs, and ozone have all declined in the years from 1978 through 1987. The emission levels of VOCs and NOx declined 17% and 8% respectively, and there was a 17% drop in ozone levels.

In addition, the EPA report found the number of days in which the federal air-quality standard for ozone was exceeded declined, on average, 38% over the decade.

A similar conclusion was reached by the Council on Environmental Quality (CEQ). The CEQ examined ozone in 23 representative cities across the United States—including Los Angeles, Houston, and New York—and found that 19 of them showed distinct downward trends in the number of times they exceeded federal ozone standards. Only Atlanta showed a distinct increase in violations, attributed to the enormous growth that city has experienced in the last few years.

And such trends are expected to continue. Citing the fact that automobile emissions of VOCs and NOx have declined considerably in the past 10 years—and should decline even further—the CEQ report concluded that trends in emissions of the pollutants responsible for ozone "should continue downward in all major urban areas through the mid 1990s."

Nevertheless, official tallies show the number of mostly urban areas that don't meet federal air-quality standards for ozone on the rise. There are 101 areas, harboring some 150 million people, on the current EPA listing (which runs through 1988), 37 more than the 1987 listing. Further, 31 of these areas, which include many of America's largest cities, are classified as serious to severe, in terms of ozone pollution.

Why the increase in cities cited for violating pollution standards at a time when the pollutants have been in decline?

Bad Weather

A chief explanation for this, according to data from the CEQ, is the role played by the extremely hot temperatures in areas of the country in 1988. The nature of ozone formation makes it highly susceptible to the weather—that is, sun-

Mr. Spencer is managing editor of CR.

light, temperature, and wind conditions. In any given year, abnormal weather can affect ozone levels drastically. Abnormal periods of hot weather, for instance, will show a large increase in ozone levels, as warmer temperatures increase ozone formation. The EPA "nonattainment" tallies, however, do not adjust for such abnormal conditions.

Aberrant weather, in fact, is largely responsible for the increase of 37 cities in the EPA's current listing of nonattainment cities. Because 1988 was the third hottest summer since 1931, cities experienced large numbers of days in which the ozone standard was exceeded.

According to Dr. Kay Jones, author of the CEQ report on ozone status and trends, cities showing such abnormal "exceedences" in 1988 showed dramatically lower counts in 1989, a year more closely representative of normal temperatures. For example, Baltimore, which had 34 ozone exceedence days in 1988, had only two in 1989; Chicago, with 27 in 1988, fell to three; Cincinnati fell from 27 to two; and Washington, D.C., from 30 down to three.

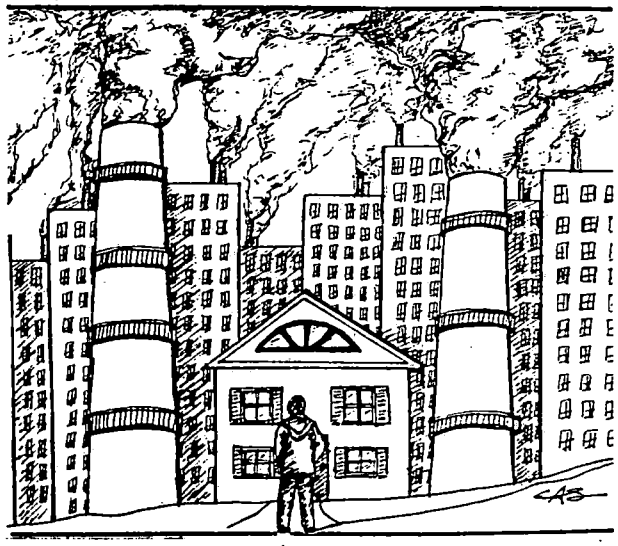
Only two areas—Houston, Texas, and Los Angeles, California—show chronic ozone problems, says Dr. Jones. Los Angeles is in a class by itself, due to its year-round warm weather and unique topography. "The aggregate population exposure in the Los Angeles Basin and [surrounding counties] and Harris County, Texas, [where Houston is located] overwhelms the rest of the nation. These areas account for 88% of all the U.S. population exposed to ozone levels above. . . the standard," he says. (Like Los Angeles, Houston has year-round mild-to-hot temperatures and a large, auto-intensive population spread out over a big geographical area.)

Misleading Tabulations

In addition, the method used by the EPA to determine whether a city meets federal standards for ozone pollution can make the situation seem worse than it actually is.

Areas suspected of ozone problems are required by the EPA to set up monitors to check ozone concentrations on an hourly basis during smog season (typically from May through September, but year round in Los Angeles). Maintained by state and local authorities, these monitors are usually placed at locations likely to have poor air quality.

If the standard—which is set at 0.12 parts per million (ppm)—is violated for at least an hour on four separate days over a three-year period, the area is classified as "nonattainment."



In other words, all it takes is one monitor to show four high hourly readings (spread anywhere over 36 months) to put an entire area on the "polluted" list. For example, Birmingham, Alabama, which is classified as "moderately" polluted in the EPA listing, showed no exceedences in 1987, only four in 1988, and none in 1989. Because of the three-year average, it will stay on the polluted list even if it shows no exceedences again in 1990.

Further, ozone concentrations are not uniform over an area, according to scientists, but vary considerably according to location and time, depending on weather conditions, mixes of pollutants, etc. One area of a city can show above-standard conditions, even though most of the region is relatively in the clear.

As David Gushee, Senior Environmental Specialist at the Congressional Research Service points out, in most nonattainment cities "all of the monitors show levels below 0.12 ppm most of the time, even in smog season. During high ozone episodes, many of the monitors continue to show levels below 0.12 ppm even while standard-breaking levels are being recorded on one or a few monitors elsewhere in the metropolitan area."

From these readings, the EPA calculates the number of days a city violates ozone standards. But this can also paint an unnecessarily grim picture. Because ozone exceedence days are measured according to hourly readings, a single hour over the standard counts as a full day, even though the bulk of the day might show levels below the standard.

Los Angeles, for instance, is shown typically to exceed ozone standards on more than 140 days per year. But an analysis of EPA data by the American Petroleum Institute found that in Los Angeles—which by far has the largest ozone

problem—readings were above the standard less than 3% of the total number of hours monitored (from 1981 to 1985). That is, residents of L.A. were breathing air that met ozone standards about 97% of the time. All other cities showed even larger percentages of "clean" air.

What's more, the EPA's characterization of cities as having "moderate," "serious," and "severe" ozone problems can be misleading. Such classifications are not based on average ozone readings throughout an area, but on the fourth highest reading over the three-year surveillance period. According to the CEQ: "the frequency of high ozone observations above the 0.12 ppm standard diminishes rapidly with increasing concentration."

What About Health Effects?

In light of these observations, what are the risks associated with exposure to ozone pollution?

According to a review of EPA and medical studies, the Office of Technology Assessment (OTA) concludes that above-standard ozone levels can cause some short-term respiratory distress, characterized as coughing, painful breathing, and shortness of breath in some people who excercise outdoors. (Indoor ozone readings don't reach high enough levels to be threatening.) The heavier the exercise and the longer the exposure, the more likely the chance of an adverse health effect. In most cases, symptoms clear up in less than six hours.

Long-term exposure to high ozone levels—in people who work outside, for example—might pose a risk of lung damage, but evidence to this effect is inconclusive, according to the OTA.

While about half of Americans live in areas that exceed the ozone standard at least once a year, only a minority of these people are at risk of adverse effects. As the OTA explains: "Ozone in a city's air . . . does not necessarily equal ozone in people's lungs. Concentrations vary with time of day and exact location. People vary in the amount of time they spend indoors." Each year, nationwide, the OTA estimates roughly 34 million people who exercise are exposed to above-standard ozone concentrations; 21 million of whom are exposed at moderate exercise levels; and 13 million at heavy levels. As the table below shows, the average hours of exposure these people experience over a year declines according to the amount of activity.

Thus, the OTA predicts that by eliminating above-standard levels of ozone, "the nation would avoid several hundred million episodes of such respiratory symptoms as coughing, chest pain, and shortness of breath. Some people in the worst areas would experience dozens fewer incidents of respiratory symptoms each year, while many in other areas would experience no change."

At What Cost?

The economic benefits of eliminating ozone's health effects might total between $500 million and $4 billion, according to the OTA, assuming all areas can be brought into attainment. These are rough estimates based on what people say they'd be willing to pay to be free of ozone's short-term symptoms.

(See OZONE, page 21.)

Estimated Exposures to Ozone Levels Above 0.12 ppm.*

Exercise Level	People Exposed Per Year	% of People Living in Areas Exceeding 0.12ppm	Hours of Exposure Per Person Exposed Per Year
Nationwide except Los Angeles:			
Low	24 million	20%	3.7 hr.
Moderate	16 million	13%	4.6 hr.
Heavy	10 million	8%	3.2 hr.
Very heavy	60 thousand	less than 0.1%	2.1 hr.
Los Angeles:			
Low	9.7 million	97%	22 hr.
Moderate	4.6 million	46%	24 hr.
Heavy	3.0 million	30%	14 hr.
Very heavy	20 thousand	0.2%	10 hr.

* Estimates are based on hourly ozone data for the period 1983-85, and take into account people's activity patterns (e.g., time commuting, time indoors, etc.) and location throughout the day. The estimates are broken down according to exercise levels. Those exercising at the higher levels are most apt to be susceptible to health impacts. The total number of people residing in areas where ozone concentrations exceeded 0.12 ppm at least one hour per year, on average during this time period, was approximately 130 million.
SOURCE: Office of Technology Assessment, "Catching Our Breath: Next Steps for Reducing Ozone," July 1989.

Special Report: Part 3

The High Cost Of Clean Cars

One proposal to reduce ozone pollution is to encourage the development of automobiles that will run on "alternative" fuels. As the following report points out, such fuels have serious drawbacks that might outweigh any potential benefits from their widespread use. The report is excerpted from "The Clean Fuels Myth," by Anthony Woodlief, Competitive Enterprise Institute, Washington, D.C. —Ed.

In June 1989, President Bush released his clean air plan for improving air quality in the United States, particularly in urban areas. One aspect of this plan, the clean fuels program, is described by the White House as "perhaps the most innovative and far-reaching component" of the proposal. The clean fuels program would phase in alternative fuels, most notably ethanol, methanol, and possibly natural gas, in at least nine major U.S. cities, including Houston, New York, Chicago, and Los Angeles. The program would also require car companies to produce alternative fuel vehicles, with the goal of one million new clean-fueled vehicles on the market every year by 1997.

The clean fuels program primarily addresses the urban concentrations of carbon monoxide (CO) and ozone that result from gasoline vehicle emissions. CO is a primary emission of gasoline vehicles, while ozone is formed from the photochemical reactions of other emissions, namely nitrogen oxides (NOx) and volatile organic compounds (VOCs). CO is toxic in high concentrations, and can cause respiratory problems. Ozone can cause respiratory problems as well. (See "Clearing the Air on Urban Smog," page 12.)

Fuels that produce less of the pollutants common to gasoline without generating other forms of pollution would merit the label "clean fuels." Unfortunately, the clean fuels advocated in the Bush plan do not meet these criteria.

Methanol

Methanol is produced mostly from coal and natural gas. Engines running on methanol produce aldehydes, among them formaldehyde, a probable carcinogen. Although methanol may produce a 34% to 83% reduction in reactive hydrocarbons (a class of VOCs) and thereby reduce smog formation, formaldelhyde is photoreactive and contributes to the formation of smog, which can offset any reduction in these hydrocarbons.

Nitrogen oxide is not significantly reduced with methanol use, and neither is CO, judging from tests of conventional vehicles modified for methanol.

Aside from the pollutants it generates, methanol raises other serious health concerns. It is toxic and absorbed into the skin more easily than gasoline. Its vapors weigh as much as air, increasing the possibility of methanol poisoning in the case of accidental leakage, because the vapors would remain close to the ground.

"Methanol is as much as 25 times as toxic as gasoline, which means large increases in poisoning fatalities, along with increases in methanol-induced blindness, if methanol is used widely."

Methanol is as much as 25 times as toxic as gasoline, which means large increases in poisoning fatalities, along with increases in methanol-induced blindness, if methanol is used widely. (See box on page 17.)

Since methanol blends are more volatile than gasoline, they can cause explosions in the engine, or in the fuel tank if it is damaged in an accident. Methanol's colorless, almost invisible flame makes the fires from such explosions a double threat.

High Costs. Aside from the effects of methanol on humans, it is damaging to conventional gasoline vehicles' fuel delivery systems as well. It is corrosive, eventually destroying both conventional automobile engine metals and rubber hoses. The result is a more expensive vehicle, since equipment resistant to methanol's corrosiveness must be used. Estimates of methanol conversion costs range from $600 to $1,900 per automobile.

Methanol is more expensive to produce than gasoline. A probable pump price for methanol is

estimated at 72 cents to $1.15 a gallon. Since methanol has a lower energy content, getting 50-60% of the mileage of gasoline, this pump price is equivalent to $1.30 to $2.07 for a gallon of gasoline.

Ethanol

Ethanol is an alcohol fuel usually made from corn, although other biomass such as sugar cane or beets can also be used. Ethanol is blended with gasoline, usually in a 10% ethanol/90% gasoline mixture, which increases the amount of oxygen in the fuel and reduces lead and CO emissions, while reducing mileage by only about 2%. This blend is estimated to be capable of reducing CO emissions by about 22% if used nationwide.

There is an emissions trade-off, however, because ethanol can increase total VOC emissions by more than 25%. A Colorado study estimated that ozone formation in Denver would increase by more than 13% if ethanol fuel were used year-round.

Furthermore, a study in Brazil, where ethanol blends are used widely in concentrations of up to 100%, shows that aldehyde emissions from ethanol vehicles are four times higher than from gasoline vehicles. In addition to ozone, these aldehydes create peroxyacetyl nitrate, which damages plants.

The estimated cost of a gallon of ethanol, taking into account production, shipping costs, and capital expenditures, is $1.10 to $1.80 more than a gallon of gasoline. Since each gallon of the fuel bought at the pump will probably contain at most a 10% mixture of ethanol, the blend will cost an estimated 11.1 to 17.3 cents per gallon more than straight gasoline.

Because ethanol is produced primarily from corn, widescale ethanol production is expected to raise food prices in the United States an estimated $6 billion to $8.6 billion.

Natural Gas

Compressed natural gas (CNG) is distinguished from liquid natural gas such as propane by the fact that it is gaseous. The EPA has found that CO emissions from CNG vehicles were 50% to 80% lower than from gasoline vehicles, with total VOCs reduced a similar amount. Nitrogen oxide emissions, however, ranged widely from no change to increases of up to 80%.

On an energy-equivalent basis, natural gas vehicles get 20-30% of the mileage of gasoline vehicles. In addition, steel storage tanks weighing seven-and-a-half times as much as a conventional gasoline tank are necessary to hold the natural gas equivalent of five gallons of gasoline.

". . . vapor recovery systems have the potential to increase the number of vehicle crash fires, especially fires fed by leaking gasoline vapor."

Limited Driving Range. Dr. James Cannon, of the environmental group INFORM, writes that: "Most natural gas vehicles have room for only two or three [fuel tanks]. This limits their driving range to less than 300 miles between refills while adding up to 500 pounds to the car and consuming more than half of the usable trunk space in cars using steel tanks."

Furthermore, the additional weight from these tanks cuts down on the mileage of natural gas vehicles even more, adversely affecting handling, braking, and acceleration as well.

The pump price of natural gas is estimated at 63 to 88 cents for the equivalent of a gallon of gasoline. This estimate still makes the cars only marginally cost effective, and uneconomical if other costs of its mandated use are considered. For example, the refueling stations necessary to meet just 14% of the U.S. transportation needs are estimated to cost $12 billion.

In addition, one study places the cost to convert a vehicle to run on natural gas at $1,500 to $2,300.

* * * * * *

Vapor Recovery Systems

Another proposed solution to the ozone problem is the inclusion of "vapor recovery systems" on all new automobiles. These systems would be designed to trap gas fumes in carbon canisters, thereby reducing the amount of ozone-forming pollutants. As the following report notes, however, such systems could be hazardous to car drivers. It is excerpted, with permission, from "Status Report," a newsletter of the Insurance Institute for Highway Safety (IIHS). —Ed.

The House Energy and Commerce Committee's Subcommittee on Health and the Environment has agreed on legislation that requires onboard vapor recovery systems for new cars and trucks that could increase the risk of vehicle fires.

The IIHS, the National Transportation Safety Board (NTSB), and the National Highway Traffic Safety Administration (NHTSA) have warned that vapor recovery systems have the potential

to increase the number of vehicle crash fires, especially fires fed by leaking gasoline vapor. The additional complexity in itself poses an additional fire hazard. The systems also can cause vapor lock and sudden stalling, leading to increased crash risk.

That view is upheld in a recent independent evaluation prepared by Arthur D. Little Inc. for NHTSA. It assesses the safety issues associated with the proposed systems and reports: "There is adequate evidence to conclude there are indeed potential safety risks associated with onboard systems. These systems are at too early a stage of development to assess risks adequately and completely."

Four Major Problems. The Little study pinpoints four major problems:

1) In practice, the more complicated the fuel and emissions system becomes, the greater the number of possible breakpoints that can rupture and cause fire.

2) The record shows that manufacturers have not been able to eliminate safety related defects associated with the current evaporative emissions controls required since 1971 on new cars.

3) NHTSA tests of prototype designs show that on especially hot days or at higher elevations onboard vapor recovery devices can cause driving problems and overheating of an automobile's exhaust system. If exhaust system temperatures approach ignition, a fuel leak could cause instantaneous ignition.

4) The Environmental Protection Agency (EPA) advocates unpressurized fuel tanks to eliminate vapor escaping when the gas cap is removed. The Little study notes, however, that in an unpressurized tank the boiling point is lower. This can generate excess vapor, produce engine stalling, and overload

(See CLEAN CAR, page 21.)

The Health Hazards of Methanol Use

The following letter—from two officials at the American Association of Poison Control Centers to the Director of the EPA—argues the severity of potential hazards from the widescale use of methanol fuel in motor vehicles.—Ed.

Dear Director:

On behalf of the American Association of Poison Control Centers (AAPCC), we would like to take this opportunity to comment on the acute health effects which we anticipate will follow the proposed widespread conversion to methanol fuels. Based on 1987 gasoline exposure data reported to poison centers nationwide, we feel that an increased incidence of accidental methanol ingestion will be an obvious corollary of increased methanol availability. This in turn will lead to an unacceptable increase in methanol-induced blindness, permanent neurologic disability, and death, unless appropriate measures are taken to prevent siphoning and accidental pediatric ingestion.

An estimated 35,000 gasoline ingestions occurred in the United States in 1987. This estimate is based on an extrapolation of data reported by 63 U.S. poison centers. Methanol has a 25-fold greater fatality rate than gasoline, a reflection of its profoundly greater systemic toxicity. Thus if current gasoline ingestions were methanol, rather than gasoline, greater toxicity would be expected, including an increased incidence of death, blindness, permanent neurologic disability, and acute hospitalizations for hemodialysis of methanol. The ingested dose of methanol which requires invasive treatment (hemodialysis) is just 0.4 ml/kg [milliliters per kilogram], a mere teaspoonful (5 ml) of M85 fuel [85% methanol blend] in a 10 kg one-year-old child, and just 7 ml in a 15 kg three-year-old. Whereas a 70 kg adult would need to ingest 28 ml (less than one ounce) to obtain a level which requires hemodialysis, this amount could easily be swallowed in a siphoning incident. Similar extrapolations from the often cited potentially lethal methanol dose of 1 ml/kg indicate that just 12 ml (less than a tablespoonful) of M85 fuel in a one-year-old, and just 18 ml in a three-year-old is potentially fatal.

Analysis of the available gasoline ingestion data indicates that approximately 39% of the cases occur as the result of siphoning by teenage and young adult males. Accidental pediatric ingestions account for another 36% of exposures. In most of the pediatric cases, fuel cans or container transfers were implicated.

Extrapolation of existing data indicates that 195 additional methanol deaths will occur each year if methanol fuels become widespread without the simultaneous introduction of effective methods to prevent accidental pediatric ingestion and siphoning. In addition, there will be a $50 to $100 million annual increase in acute health care costs for poisonings from fuels, excluding the costs of extended hospitalizations for complications of methanol poisoning, chronic care and rehabilitation for severe permanent blindness or neurologic impairment, and loss of life.

Toby Lovitz, M.D.
Chairperson, AAPCC Data Collection Committee

William O. Robertson
President, AAPCC

Special Report: Part 4

Acid Rain: No Harm Done?

Acid rain forms when chemicals in the air, principally sulphur and nitrogen oxides, mix with rain, increasing the rain's level of acidity (as measured on a pH scale). According to some environmentalists, acid rain has severely damaged the nation's forests and lakes, especially those in the Northeast. The federal government's own data, however, show something altogether different. The following is excerpted from the National Acid Precipitation Assessment Program, Interim Assessment Report, 1989. (See also "The Latest Official Report on Acid Rain," CR, October 1988.) – Ed.

Acid Rain's Effects on Crops. There are no measurable and consistent effects on crop yield from the direct effects of simulated acidic rain at ambient levels of acidity. The conclusion is based on yield measurements of grains, forage, vegetable, and fruit crops exposed to a range of simulated acidity levels in controlled exposure studies, and is supported by results from mechanistic and screening studies.

An evaluation of the input of sulfur and nitrogen from acidic deposition (acid rain) indicates that it may benefit crops indirectly through the nutritional enrichment of agricultural soils.

Acid Rain's Effects on Forests. All forests experience natural stresses caused by plant competition, nutrient limitations, adverse weather, insects, disease, and other factors acting alone or in combination. Man-caused stresses such as incompatible land use, wildfire, and possibly regional air pollution can also contribute to reduced forest health.

[However,] controlled exposure research to date shows no direct foliar impacts to seedlings by acidic precipitation or gaseous sulfur dioxide and nitrogen oxides at regional ambient levels in the United States. Ozone is the leading suspected pollutant that may stress forests and reduce growth. (See also "Clearing the Air on Urban Smog," page 12.) Research is underway to resolve the relative importance of pollutants and natural stresses.

Acid Rain's Effects on Lakes. Limited data for the period 1965 to 1981 suggest that surface water sulfate concentrations roughly track trends in sulfur emissions. In the Northeast, sulfur dioxide emissions have decreased in recent years; over the same period, surface water sulfate concentrations have decreased. In the Southeast, sulfur emissions have continued to increase; sulfate concentrations in streams have also continued to increase. Surface water sulfate concentrations in the Southern Blue Ridge Province are expected to continue to increase for a period of years if emissions remain constant. This is because of the sulfate adsorption characteristics of Southeastern soils.

Many factors interact to affect the acidity of surface waters. At current levels of deposition, surface waters in any given region will respond differently, producing a range of chemistries. [Many lakes, moreover, are acidic from natural causes. In Florida, for example, 22% of the lakes are acidic, despite the fact there is little sulphur emission in that area. According to testimony before a Senate committee, Dr. James Mahoney, director of the federal government's acid rain program, noted: "In other regions, such as Florida and the upper Midwest, the contribution of acidic deposition to total acidity is smaller." –Ed.]

Lake acidity can be neutralized for a period of months to years by application of limestone to the lake or to its watershed. Fish populations usually benefit.

Acid Rain's Effect on Health: Certain studies appear to establish qualitative links between human health and chronic, ambient exposures to acidic aerosol particulate matter and sulfur dioxide in a small subgroup of sensitive individuals.

* * * * * *

Acid Rain Control Costs

The total costs to reduce acid rain emissions under the Bush Administration's clean air proposals would be about $4 billion a year, according to the Environmental Protection Agency. Because acid rain controls affect electric utilities the most, especially those in the Northeast, consumers would see much of the compliance cost reflected in higher electric bills.

What would these costs look like? The following

are estimates for the total additional electrical costs and annual rate increases per household in those states hardest hit by the acid rain control measures. They were calculated by the Edison Electric Institute. —Ed.

State	Total (Millions of Dollars)	Dollars Per Household
Alabama	$303	$204
Florida	294	61
Georgia	396	175
Illinois	410	96
Indiana	626	306
Kentucky	304	222
Michigan	180	54
Missouri	520	268
North Carolina	230	96
Ohio	898	223
Pennsylvania	626	141
South Carolina	129	115
Tennessee	464	255
Virginia	121	56
West Virginia	417	590

SOURCES: The Edison Electric Institute. Additional data from Warren Brookes.

* * * * * *

Benefits from Reduction?

What benefits would derive from reducing acid rain? To help answer this question, we reprint below an exchange between Dr. James Mahoney, director of the National Acid Precipitation Assessment Program, and Sen. Daniel Moynihan (D-N.Y.). The discussion, which took place at a Senate committee hearing in October, 1989, indicates that little might be expected from reductions in acid rain. —Ed.

Dr. Mahoney: If there were no change in acid deposition from current levels, we would expect that in the Northeast the chemical status of the lakes would stay approximately the same over the next 50 years.

Sen. Moynihan: You're saying that . . . the lakes in the Northeast are in a steady state? Is that right?

Dr. Mahoney: Right.

Sen. Moynihan: Suppose we doubled the acid-rain deposition? Would that have any consequence?

Dr. Mahoney: Not much. We have a percentage of acid lakes (5%) and no matter what we do over the next century except for restoring them one at a time through liming, little is going to change them quickly.

Sen. Moynihan: You find a very high level of acidification in Florida. Is that right?

Dr. Mahoney: Yes, sir . . . 22% of the lakes in Florida . . . are acidic lakes.

Sen. Moynihan: And this is not primarily associated, or even perhaps predominantly, with acid-rain deposition?

Dr. Mahoney: That's correct.

Sen. Moynihan: It has to do with the geology of the area, the plants?

Dr. Mahoney: Yes. And with the decaying organic materials introducing organic acids to the lakes.

Sen. Moynihan: If the present pattern of acid deposition continued unchanged . . . what would happen to [the lakes in the Northeast]?

Dr. Mahoney: If . . . we look at the time 20 years from now and then 50 years from now, we see that if deposition is unchanged, we don't expect any significant change.

Sen. Moynihan: Now if we go to a decreased deposition [a 10 million ton reduction as proposed by the Bush Administration], in 20 years we pick up 26 lakes? [See table below.]

Dr. Mahoney: Yes, sir.

Sen. Moynihan: One lake a year. And we'd go from 5% down to 4% acidic lakes in the Northeast?

Dr. Mahoney: That's correct.

Sen. Moynihan: Over 50 years you'd pick up 80 lakes or 75?

Dr. Mahoney: Yes.

Sen. Moynihan: Well, what are the costs?

Dr. Mahoney: We are doing control cost estimates but we don't have them available at this time, so I can't make our own up.

Sen. Moynihan: Mr. Rosenberg? [William Rosenberg is a deputy EPA administrator.]

Mr. Rosenberg: We estimate about $4 billion a year.

Sen. Moynihan: $4 billion a year? OK, so we have to ask ourselves whether . . . that is the best way to spend $4 billion a year. We could, with that money, give every welfare family [in New York State] $12,000 to vacation in the Adirondacks on some of the 95% of the lakes that are not acidic. Does it hurt to swim in acidic water?

Dr. Mahoney: No, sir, not in this range. CR

How Many Lakes Saved?

Time from Present Year	Constant Deposition*	Decreased Deposition**
0 Years	162	162
20 Years	161	136
50 Years	186	87

* Constant deposition indicates continued acid rainfall over the next 50 years at current levels.
** Decreased deposition indicates acid rain held at current levels for 10 years, then dropping off linearly for 15 years to a level 30% below current levels, then held constant.
SOURCE: The National Acid Precipitation Assessment Program.

Special Report: Part 5

Air Toxics: How Serious a Threat?

Another concern among legislators is ridding the air of toxic pollutants generated by industry. Although the cost to do so could be substantial (see box below), the health benefits are indeterminate and might be minimal, as the following article suggests. It is excerpted from tesimony given by John D. Graham (associate professor of Policy and Decision Sciences at Harvard School of Public Health) before Congress in September 1989. – Ed.

The phrase "air toxics" is used very loosely to refer to all air pollutants that may cause serious health effects but for which the EPA has not established a national ambient air quality standard. There are several hundred toxic air pollutants emitted by various industrial sources. The EPA has estimated that at least 2.7 billion pounds of toxics are emitted into the air each year. The dimensions of the problem may seem frightening, but it is important to keep the magnitude of the problem in perspective.

First, while there is a logical basis for public health concern, there is no direct evidence that outdoor exposures to toxic air pollutants are responsible for a significant fraction of disease or mortality. It is true that direct evidence of public health damage has been demonstrated for criteria pollutants such as ozone, sulphur aerosols, and fine particulates, and that the indoor air toxics problem may also be quite serious. In the case of outdoor exposure to toxic air pollutants, however, health concerns are inferred from either long-term animal studies or epidemiological studies of highly exposed workers. The levels of toxics that people breathe in daily life are typically several factors of ten smaller than the levels that have been studied by scientists. Nonetheless, the available studies are a sound basis for public health concern.

". . . there is no direct evidence that outdoor exposures to toxic air pollutants are responsible for a significant fraction of disease or mortality."

Second, despite the lack of direct evidence, EPA risk assessments suggest that inhalation of air toxics may increase the incidence of disease, especially cancer among highly exposed popula-

Cost to Consumers to Remove Air Toxics

Reducing the amount of air toxics emitted by industry could be one of the most expensive elements of the clean air legislation. According to the Business Roundtable, a group representing several large industries, the cost to clean the air of industrial toxics could range from $7 billion a year to a high of $62 billion a year. The reason for the large spread is that some bills set extremely restrictive standards on pollutants, requiring technology that currently does not exist to comply with those standards.

According to the Commerce Department, that $62 billion figure is nearly twice what is currently being spent to comply with current clean air requirements (about $32 billion a year).

Because most of these costs are eventually paid for by consumers—in terms of higher costs and reduced availability of products, lower return on investments, etc.—it's instructive to break these numbers down. According to the Clean Air Working Group, the $32 billion currently spent on clean air translates into an average annual charge of $500 per household for cleaner air.

The low estimate on costs for the air toxics provision of the new clean air legislation ($7 billion a year) amounts to a bill to each household of $111 annually. At the high end, the charge would be $967 each year.

Keep in mind that these costs are averages. Some people would end up paying more, and some less. *–John W. Merline*

tions. Based on a study of 65 toxic air pollutants, the EPA estimates that up to 3,000 additional cancers [from air toxics] may occur each year in the United States. By way of comparison, keep in mind that 900,000 new cases of cancer are detected in the United States each year.

The EPA's widely quoted cancer risk estimates should be treated with caution because they are based on some questionable assumptions—for example, that humans are as sensitive as the most sensitive tested animal species, and that any human exposure to a carcinogen, no matter how small, results in some increase in cancer risk. While these are prudent assumptions to make in the absence of sound data, the EPA has not always been responsive about revising its assumptions in light of scientific advances. For example, the EPA's risk assessment for benzene, formaldehyde, gasoline vapor, and perchloroethylene are scientifically outdated and need to be revised.

Let me stress that revision of risk estimates based on science can result in either more or less public health concern.

Third, people who live very close to industrial sources of toxic air pollutants (e.g., coke ovens) may experience substantial elevations in lifetime risk, say, in the range of 1 in 100 to 1 in 1,000. While the numbers of people severely affected may be relatively small, these localized "hot spots" of risk present a serious equity issue that Congress should address.

While I am convinced that such hot spots are a potentially serious problem, we should keep in mind that the EPA's risk estimates to the "maximally exposed individual," or "MEI," are hypothetical. They assume, for instance, that people live outdoors at the fence line of a major source [of industrial pollution] for 70 years, 24 hours per day. More often than not, the risk estimates to the MEI are based on predicted or modeled exposures rather than actual personal exposures or station monitor readings. The EPA risk assessors are aware that they need to develop a more realistic procedure for calculating risks to the maximally exposed individual. CR

* * * * * *

Ozone...

(Continued from page 14)

However, the costs involved in the proposals now being considered to reduce ozone pollution would run anywhere from $7 billion to $20 billion a year. And even the most expensive proposals, using currently available technologies, will not bring the most severely affected areas into attainment, according to the OTA. (Many areas are expected to meet the standard in the next several years—according to current trends—without additional pollution controls.)

And some of the pollution control methods proposed—such as switching to alternative fuels and installing vapor recovery devices on cars—may bring adverse heath effects of their own. (See "The High Cost of Clean Cars," page 15.)

Furthermore, there is much scientific uncertainty about the effectiveness of current technologies in reducing ozone. According to Dr. Philip Abelson, deputy editor of the journal *Science*, while the EPA has relied on reducing man-made sources of pollutants (with minimal effect in some areas) natural sources might be contributing significantly more to high ozone concentrations in some areas than previously thought.

As the previous discussion would suggest, the information on ozone is far from complete. As Dr. Abelson says: "If EPA is to regulate intelligently, it must be better informed about the differing circumstances and mechanisms that exist in the various rural and urban areas." CR

* * * * * *

Clean Car...

(Continued from page 17)

the vapor recovery system. The possibility of engine stalling while in operation could lead to greater crash risk. And, if the fuel vapors break through the carbon canisters used to purge them, they could be ignited by the exhaust system.

The EPA claims the current evaporative emission controls on cars since 1971 have not raised the risk of fire and says its goals can be accomplished by enlarging and modifying current systems. But the Little study found more than 6,000 service bulletins issued by manufacturers during the past 12 years that were related to problems with fuel systems, carburetors, exhaust system controls, and emissions systems.

The report questions the efficacy of requiring 150 million vehicles to provide vapor recovery systems when 48,000 service stations could use proven technology to accomplish this goal. CR

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THE CHIEF of STAFF has seen

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DATE: 2-28-90

ATTENTION: John Sununu

COMPANY: Chief-of-Staff

FAX NO: 202-456-2397

FROM: Wallace Stickney

RE/JOB NO:

MESSAGE:

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Sununu goes to bat for acid-rain controls

By Michael Kranish
GLOBE STAFF

WASHINGTON – John H. Sununu, the White House chief of staff, trying to turn the tables on environmental critics, said yesterday that Midwestern senators are trying to weaken controls on acid rain against President Bush's and his own wishes.

Sununu, who has been accused of weakening various environmental initiatives, said the Midwestern senators should not be allowed to weaken the clean-air legislation. He made his comments after a closed Senate negotiating session on the bill.

Acid rain is created by emissions from coal-burning power plants in the Midwest, and falls on New England.

With the clean-air legislation slated to go to the floor on Thursday, Sununu's comment was the latest indication that the acid-rain dispute may be decided in a floor fight rather than in congressional negotiations. Sununu said a vote on the legislation should be delayed so a tough stance on acid rain can be taken.

"We are concerned about rumors that concessions are being made that would yield too much to the emitting states that cause acid rain in an effort to get the bill to the floor more quickly," Sununu said.

Sununu said he told Senate leaders that his chief concern is that senators from high-pollution states are trying to undercut the key premise of Bush's program: that "polluters pay" for the bulk of the cleanup.

Sen. George Mitchell of Maine, the Democratic majority leader, denied that he or any other negotiator has made concessions on acid rain. Mitchell, sounding testy at Sununu's charge, said "every concession made so far" on the clean-air legislation "has been made at the insistence of the administration. So I find it interesting that" Sununu would make known "his concern about concessions."

Sununu has been criticized by environmental groups for weakening Bush's efforts on smog, wetlands and global warming. Nonetheless, as New Hampshire governor and as White House chief of staff, he has been supportive of acid-rain legislation that would force the mostly Midwestern polluters to pay for the cleanup.

His tough talk yesterday against efforts to weaken the acid-rain provisions appeared to be an attempt to show that he is not as opposed to environmentalism as his detractors have said.

Sununu did not specify what concessions have been offered to Midwestern senators. However, the White House has adamantly opposed Midwest efforts to push for a nationwide tax on electric bills to pay for the cleanup.

Midwestern senators have also suggested plans that would delay the implementation of acid-rain controls.

JOHN H. SUNUNU
Calls foul on Midwestern senators

2/27/90 Glo. Bos.

...rs to the Editor

Proposal would share costs of acid rain cleanup

By focusing on one Midwestern utility's opposition to acid rain legislation, the Globe's Feb. 18 article on acid rain did not do justice to those of us in the Midwest who support strong controls but seek an equitable sharing of the costs.

President Bush's proposal exempts industrial emitters of 30 percent of the nation's sulfur dioxide from any cleanup requirement, instead putting the entire burden on large coal-burning power plants. The result is a disproportionate burden on nine Midwestern and Southeastern states.

These states, which are responsible for 51 percent of nation's sulfur dioxide emissions, are required by the bill to achieve 77 percent of the reductions. New England and New York, which emit 5.4 percent of the total, are responsible for only 1.2 percent of the cleanup; Missouri emits 5.1 percent but has to clean up 9.5 percent of the total.

Most of the us in the Midwest do not object to achieving more of the reductions at our coal-burning power plants if that is more cost-effective than requiring industry to clean up. But if we are asked to do more than our share because it is cheaper than at a Texas refinery, let Texas or the entire nation help us pay the extra costs.

I have recently put forward a true "polluter-pays" proposal that would impose a small emissions fee on the industrial polluters who escape any cleanup requirement under the president's bill, with the funds used to reduce the unfair extra burden imposed on a few states. It is slightly stronger than the president's bill from an environmental perspective.

I hope New Englanders can support it as a way to achieve the acid rain reductions their region and the nation legitimately desire. I also hope New Englanders do not dismiss the legitimate concerns about electric rate increases and job loss in the Midwest because they are used by some utilities to oppose any acid rain legislation.

REP. PHILIP R. SHARP
Chairman, Energy and Power Subcommittee
US House of Representatives
Washington, D.C.

Globe 2/27/90

THE CHIEF of STAFF has seen

Summary of the Air Toxics Issues

The following is a short description of each of the differences between the legislative language proposed by the Senate staff (Senate language) and the language proposed by the Administration (Administration language).

(1) Alternative Emissions Limitation for New Sources

The Administration language allows both new and existing sources to apply for site-specific alternative emission limitations based on risk to actual persons. S. 1630 requires new sources to meet 10-6 health standard without waiver to 10-4 or extensions. The language proposed by Senate staff follows the pattern of the bill limiting site-specific, "actual person waivers" to existing sources.

(ADMIN, P1, L3-6; SEN, No provision)

(2) Compliance with Health Standard

The Senate language requires compliance with the health standards (10-4 and 10-6), if technology is available to do so. The Administration language allows sources to get a site-specific alternative emissions limitation, even if they could comply with the health standard using available technology.

(ADMIN, No provision; SEN, P1, L12-13)
(ADMIN, No provision; SEN, P3, L10-11)

(3) State Authority to Allow Alternative Emissions Limitation

The Senate language allows states to grant alternative emissions limitation for 10-6 standard; EPA must grant alternative emissions limitation for 10-4 standard. Administration language allows states to grant alternative emissions limitations for both standards.

(ADMIN, P1, L15; SEN, No provision)

(4) Person or Persons

The Senate language requires that the alternative emissions limitations protect the most exposed actual person. The Administration language is ambiguous, making reference to actual person<u>s</u>.

(ADMIN, P1, L23; SEN, P1 L16)

(ADMIN, P3, L18; SEN, P3, L14)

(5) Further Progress

The Senate language requires a source receiving an "actual person" alternative emission limitation at 10-4 to go beyond that level of control with a goal of 10-6, if technology is available to do so. The Administration language appears to contain no comparable provision.

(ADMIN, No provision; SEN, P2, L3-15)

(6) Definition of "Available" Controls

The Senate language defines available controls to include those methods and technologies that may be employed without damaging the economic viability of the source. The Administration allows cost to be considered in defining "available" without constraint.

(ADMIN, P2, L20 - P3, L4; SEN, P2, L16-21, P8, L4-11)

(7) Additive Risks from Other Exposures

The Senate language provides that additive risks from exposure to all "carcinogens" emitted by a source not exceed 10-5 where technology is available to afford such protection. The Administration language only covers "hazardous air pollutants" excluding those carcinogens that may be emitted, but which have not been listed by EPA.

(ADMIN, P3 123- P4 L3; SEN P3, L18-22)

(8) Deadline for Submitting and Approving Health Assessment

The Senate bill provides that an application for an alternative emissions limitation and a site-specific health assessment may be submitted within two years after a residual risk standard is promulgated. The Administration language only allows one year for existing sources to apply for an alternative emissions limitation. Under Administration language, if EPA fails to act on an application for alternative emission limitation, the compliance deadline for the health standard may be extended indefinitely.

(ADMIN, P4, L11-12; SEN P4, L1-7)
(ADMIN, P4, L17-24)

(9) Stack Height Credit

The Senate language limits stack height credit for mitigation strategies as proposed in H.R. 4. Administration language limits stack height credit for mitigation strategies in accordance with rules promulgated pursuant to section 123 of existing law.

(ADMIN, P4, L19-22; SEN, P4, L13-17)

(10) Two-Year Extension for Alternative Emissions Limitation

The Administration language allows a two-year extension for compliance with an alternative emissions limitation, if EPA finds it necessary to avoid shutdown. The Senate language contains no comparable provision. This item was not previously discussed.

(ADMIN, P5 L24 - P6 L5; SEN, No provision)
(ADMIN P16, L19-26; SEN, No provision)

(11) Health Assessment Methodology

The Senate language requires that several site-specific factors be included in health assessment methodology. The Administration language provides those factors be considered only to the extent EPA requires by rule.

(ADMIN, P6 L12- P7 L12; SEN, P5 L22 - P7 L6)

(12) Public Review of Health Assessment

The Senate language parallels Superfund and provides for public review of site-specific health assessment before any permit incorporating an alternative emissions limitation based on the assessment is granted. The Administration language contains no explicit provisions for public review of health assessments.

(ADMIN, No provision; SEN, P7 L8 - P8 L3)

(13) Alternative Emission Limitation for Noncarcinogens

The Administration language authorizes an alternative emissions limitation for pollutants other than carcinogens requiring "protection of public health and environment". Senate language contains no comparable provision. This issue has not been previously discussed.

(ADMIN, P7, L16-25; SEN, No provision)

(14) Leak Detection Requirement

Language originally proposed by Senator Reid contained ambiguities with respect to "such substances" for which there is no reference and "covered facilities" which is an undefined term. Senate language attempts to clarify these terms. Administration language does not adopt clarifications.

(ADMIN, P8, L4-20; SEN, P8 L15 - P9 L20)

(15) Mercury Controls at Electric Utilities

The Senate language requires MACT standards be issued for mercury emissions from electric utility boilers that are major sources. Administration language provides that mercury standards are only issued "if required" and "technologically and economically feasible".

(ADMIN, P9, L24 - 26; SEN, P10, L16)

(16) Acid Gas Controls at Electric Utilities

The Senate language provides that Administrator has discretion not to issue MACT standards for acid gas emissions from electric utility boilers. Administration language deletes any authority for EPA to require scrubbers on electric utility boilers to control any hazardous air pollutant.

(ADMIN, P10, L4-7; SEN, P10 L21 - P11 L2)

(17) Coke Oven Extension

The Administration language makes reference to further extension for coke ovens. The Senate language contains no comparable provision. This issue has not been previously discussed.

(ADMIN, P10, L12; SEN, No provision)

(18) List of Source Categories

The Administration language establishes a new standard for excluding source categories from the list. These would be categories of sources emitting pollutants other than carcinogens which present "negligible risk" to public health. The Senate language provides that categories of sources emitting pollutants other than carcinogens may be excluded, if emissions do not reach 10 tons for one pollutant or 25 tons for a combination and emissions of carcinogens present risk less than 10-6. This issue has not been previously discussed.

(ADMIN, P11, L7-9; SEN, P11 L19- P12 L3)

(19) Deletion of Mobile Sources from Area Source Definition

The Administration language excludes mobile sources from the definition of "area sources" under S. 1630. The Senate language contains no comparable provision. This issue has not been previously discussed.

(ADMIN, P11, L11; SEN, No provision)

(20) Area Source Program Goal

The Senate language applies 75% cancer reduction objective to hazardous air pollutants from all sources. Administration language converts objective to goal and only applies goal to sources "regulated under federal law".

(ADMIN, P11 L17 - P12 L3; SEN P12, L14-19)

(21) Area Source Monitoring Requirement

The Senate language deletes explicit requirement that each MSA greater than 250,000 conduct ambient monitoring for a list of hazardous air pollutants from area sources and allows EPA discretion to shape monitoring and emissions modeling requirements for these cities. The Administration language is somewhat more discretionary allowing monitoring requirement to be limited to an undefined subset of urban areas.

(ADMIN, P12, L8-11; SEN, P13, L2-7)

(22) Audits of Hazard Assessment

The Senate language requires that EPA audit 1.4% of the hazard assessments each year. The Administration language implies that this requirement can be passed off to the states.

(ADMIN, P12, L14; SEN, No provision)

(23) Hazard Assessments Made Discretionary

The Administration language allows the Administrator discretion in the elements to be included in a hazard assessment. The Senate language contains no comparable provision. This item has not been previously discussed.

(ADMIN, P13, L3-4; SEN, No provision)

(24) Deletion of Quantitative Elements of Hazard Assessment

The Administration language deletes the "quantitative" elements from the hazard assessment. The Senate language contains no comparable provision. This item has not been previously discussed.

(ADMIN, P13, L5-6; SEN, No provision)

(25) Limited Health Information in Hazard Assessment

The Administration language limits the requirement that hazard assessments include health information on the extremely hazardous substances which may be released. The Senate language contains no comparable provision. This item has not been previously discussed.

(ADMIN, P13, L7-8; SEN, No provision)

(26) Update of Hazard Assessments

The Administration language provides that hazard assessments prepared by facilities with less than 100 tons per year of emissions only be updated every five years. The Senate bill requires an update every two years. The Senate language contains no comparable provision. This item has not been previously discussed.

(ADMIN, P13, L9-18; SEN, No provision)

(27) Eliminate Sensitivity Analysis in Hazard Assessment

The Administration language eliminates the sensitivity analysis from the hazard assessment. The Senate bill contains no comparable language. This item has not been previously discussed.

(ADMIN, P13, L19; SEN, No provision)

(28) Definition of MACT - Floor

The Senate language deletes the "top-down" procedure for determining MACT for existing sources and replaces it with a floor based on the "average of the 10% best performing sources". The Administration language deletes the "top-down" procedure and includes the average of the 10% best performing sources as a "benchmark" over all existing sources. There would be no floor for existing source MACT standards subject to judicial review for a particular source category.

(ADMIN, P14, L14-23; SEN, P14, L8-12)

(29) Definition of MACT - Benchmark

The Senate language applies the 90% emissions reduction benchmark to each source category (rather than each source in a category). The Administration language applies benchmark over all existing sources in all categories.

(ADMIN, P14, L17-23; SEN, P14, L13-16)

(30) New Source Compliance Date

The Administration language authorizes site-specific alternative emissions limitations with no risk reduction target (10-4 or 10-6) for sources that begin construction or reconstruction after promulgation of health standards. Senate bill contains no comparable provision.

(ADMIN, P15 L11 - P16 L26; SEN, No provision)

(31) Delete Permit Provisions

The Administration language proposes to delete all permit provisions from Title III of S. 1630. The Senate language contains no comparable provision. This issue has not been discussed previously.

(ADMIN, P17, L1-7; SEN, No provision)

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Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
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(b)(9) Release would disclose geological or geophysical information

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February 15, 1990

CLOSE HOLD

MEMORANDUM FOR MICHAEL BOSKIN

FROM: BOB GRADY
BILL ROSENBERG
HOWARD GRUENSPECHT

SUBJECT: Air Toxics Tentative Compromise Costs

In the January 23 Cost Comparison circulated by EPA, the Air Toxics provisions of the original Administration proposal and the Senate bill (S. 1630 as reported) were estimated to impose annual costs of $14.2 billion and $4.7 billion respectively in 2005, when all provisions of both bills would be fully phased in.

Discussions of cost, pursuant to item 2 of the President's January 19 letter, have focused on these two figures and the gap between them. It is important to note, however, as the January 23 paper does, that the Administration's cost estimates for the Residual Risk provisions of these bills do not explicitly estimate total compliance costs (as opposed to shutdown costs) associated with these provisions. Differences in compliance costs between the Senate and Administration proposals will affect the size of the actual cost difference between the two bills. By using worst case estimates of shutdown costs, the residual risk presented in the table implicitly include a cushion that could be used to offset compliance costs.

Some air toxics provisions of the two Clean Air proposals have been discussed in detail with the Senate. Because the January 19 letter relates to overall environmental and cost impacts, the Administration cannot agree (and has not agreed) to deviate from our original proposal until a complete alternative package is assembled and found to be acceptable in both environmental and economic terms. Keeping this caveat in mind, this memorandum and the attached table provides very preliminary estimates of the cost implications of the air toxics discussions as they now stand. These estimates are based on the February 15 Administration version of the language under discussion.

We estimate that if the tentative compromise positions agreed to date were to replace the corresponding provisions in the Senate bill, the $9.5 billion cost gap would be reduced by at least $5.6 billion. (Item 3 on the table.) In addition, if tentative compromises can be reached on accidental releases, mobile source toxics, and if the Senate provides a maximum fix for coke ovens, the net cost of the revised bill would be $5.4 billion, or only $653 million greater than for the Administration bill. (Item 8 on the table.)

EPA has also proposed a downward revision of $600 million in our estimate of coke oven shutdown costs under the Senate bill to reflect an anticipated 43 percent decline in capacity prior to the effective date of residual risk standards. Consultations with independent sources indicate that this forecast is plausible. (Item 2 on the table.)

Whatever coke ovens are operating will have extreme problems in meeting residual risk goals based on either actual or theoretical risk. There is significant Senate sentiment favoring special treatment for coke ovens, and their staff is drafting a fix to provide it. This fix cannot be costed until we have the language. (Item 5 on the table.)

The cost gap in accidental risk provisions was estimated to be $420 million in our January 23 analysis. The Administration has drafted language that would save $345 million relative to the Senate provision. (Item 6 on the table.)

The Senate bill contains three provisions relevant to mobile source toxics (primarily benzene and formaldehyde) emissions. First, a study of these emissions must be submitted within 24 months of enactment. Second, EPA is required to develop and implement a strategy to reduce areas source toxic emissions by at least 75 percent and implement it within 9 years of enactment. Finally, in addition to this general requirement, EPA must identify and regulate the 10 most hazardous area source (including mobile source) pollutants. These provisions, which have not been considered in our Senate discussions, make the regulation of mobile source benzene a virtual certainty under the Senate bill. However, we plan to insist that the Senate area source air toxics language be modified or amended to conform to the intent of the Administration's air toxics language: i.e. that a study be completed with regulations to be promulgated only if necessary.

As noted above, the January 23 analysis did not include specific cost estimates for a number of differences between the two bills. Under the tentative compromise, all existing and new sources will have the opportunity to meet an alternative emission limitation based on actual exposure at the individual source, rather than the default standard based on a theoretical maximum

exposure model applied to an entire class of sources. On average, this opportunity should lower compliance costs for meeting residual risk goals compared to the original (theoretical standard only) Senate formulation, while providing actual protection levels sought under the Senate provision. However, an undetermined number of sources will incur an undetermined amount of cost to make their cases for being granted an alternative emission limitation.

VERY PRELIMINARY ESTIMATES OF COST IMPLICATIONS OF CLEAN AIR DISCUSSIONS ON AIR TOXICS PROVISIONS

(Year 2005 costs in millions of present dollars)

(1)	Senate Bill Air Toxics Cost Estimate (January 23)	14,232
(2)	Adjustment for coke sector shrinkage 600*	
(3)	Tentative cost-saving (vs. Senate bill) compromises	
	Utility Boilers 918	
	Leak Detection 2000	
	Urban Monitoring 87	
	Residual Risk Shutdown Costs (other than coke ovens) 2600	
	TOTAL 5605	
(4)	Senate Bill after tentative cost-saving compromises now in place and coke sector shrinkage adjustment	8,027
(5)	Possible savings in coke oven shutdown costs (awaiting fix language from Senate) 0-800	
(6)	Possible savings on accidental release (no tentative compromise as of yet; new Admin proposal prepared) 345	
(7)	Possible savings on Mobile Source Toxics (benzene/formaldehyde) (no tentative compromise yet; Admin will insist that Senate language be modified or amended to conform to intent of Admin bill) 1500*	
(8)	Senate Bill after tentative compromises plus assumed maximum Senate coke-oven fix and Senate acceptance of Admin positions on accidental release and mobile source toxics language.	5,382
(9)	Tentative cost-increasing (vs. Administration bill) compromises	
	Major Stationary Sources 78	
	Accidental Releases 75	
	Residual Risk 500	
	TOTAL 653	
(10)	Administration Bill Air Toxics Cost Estimate (January 23)	4,729

* see memo for detail

FEB 16 1990

Revision of Agreement on Air Toxics

Residual Risk

1. On page 344 on line 14 before the period insert:

"except that a source otherwise subject to subsection (f)(1), may in the alternative, seek approval of an alternative emissions limitation under subsection (i)(4)(B)."

2. On page 344, line 18, and page 344, line 24, after the word "standard", delete the comma and insert the following: "or alternative emissions limitation,".

3. On page 345 beginning with line 1 strike all through line 25 on page 345 and insert in lieu thereof:

"(3) With respect to standards established pursuant to subsection (f)(1)(A), if the owner or operator of an existing source provides a site-specific health risk assessment to the Administrator (or a State with an approved program), performed in accordance with rules promulgated by the Administrator pursuant to paragraph (7)(A), the Administrator (or State with an approved program) shall, after consultation with the State in which the source is located, establish an alternative emissions limitation for the source in a permit issued under Title V, based on the results of the site-specific health risk assessment. Such alternative emissions limitation shall be established to provide that actual persons living within the vicinity of the source, who are most exposed to emissions of a hazardous air pollutant from

the source (as identified in the site-specific health risk assessment) will not experience an individual lifetime risk of cancer exceeding one in ten thousand as a result of such exposure. The alternative emissions limitation shall be reviewed at the time the permit for the source is renewed to ensure that such controls and mitigation measures as are being employed continue to be effective. No alternative emissions limitation authorized by this paragraph shall be less stringent than an emissions limitation established pursuant to subsection (d).".

4. On page 346, delete lines 1 through 8 and insert in lieu thereof the following:

"(4)(A) With respect to standards or alternative emissions limitations promulgated pursuant to subsections (f)(1)(B) or (i)(4)(B), the Administrator, or a State with an approved permit program, may grant an existing source a temporary exception from the standard, if the Administrator (or State) determines, based on specific information provided by the owner or operator of the source and other information, that the standard or alternative emissions limitation cannot be achieved".

5. On page 346 beginning at line 12 strike "For purposes of this subparagraph the phrase 'all available technology and operational controls' shall include all measures that are technically feasible including process modifications and materials substitution to reduce emissions of hazardous air

pollutants from the source.".

In lieu thereof insert:

"For purposes of this subparagraph, consideration of costs is implicit in the term "available".

6. On page 346 after line 22 insert the following new subparagraph and redesignate succeeding subparagraphs accordingly:

"(B) With respect to standards established pursuant to subsection (f)(1)(B), if the owner or operator of an existing source provides a site-specific health risk assessment to the Administrator (or a State with an approved program), performed in accordance with rules promulgated by the Administrator pursuant to paragraph (7)(A), the Administrator (or State) shall, after consultation with the State in which the source is located, establish an alternative emission limitation for the source in a permit issued under Title V, based on the results of the site-specific health risk assessment. Such alternative emissions limitation shall be established to provide that actual persons living within the vicinity of the source, who are most exposed to emissions of a hazardous air pollutant from the source (as identified in the site-specific health risk assessment) will not experience an individual lifetime risk of cancer exceeding one in one million as a result of such exposure. The alternative emissions limitation shall be established to provide that actual persons who are most exposed to all hazardous pollutants from the

source will not experience an individual lifetime risk of cancer exceeding one in one hundred thousand as a result of such exposure. The alternative emissions limitation shall be reviewed at the time the permit for the source is renewed to ensure that such controls as are being employed continue to be effective. No alternative emissions limitation authorized by this paragraph shall be less stringent than an emissions limitation established pursuant to subsection (d).".

7. On page 346, at line 25, after the word "standard" insert "or alternative emissions limitation".

8. On page 346 at line 24 strike "six months" and insert in lieu thereof "one year".

9. On page 347 after line 23 add the following new paragraphs and redesignate succeeding paragraphs accordingly:

"(5) The owner or operator of any source seeking an alternative emissions limitation under paragraph (3) or (4)(B) may employ mitigation measures to reduce expected risks of cancer to the actual person(s) living in the vicinity of the source, except that the stack height credit used in a modeling demonstration shall not exceed the credit permitted by the stack height regulations promulgated in accordance with Section 123 of the Act. To the extent that mitigation measures include relocation of persons living within the vicinity of the source or

a greenbelt around the source, the Administrator shall assure whenever a permit for such source is renewed, or at five year intervals if no permit is required, that such measures continue to be effective.

"(6) Any request for an alternative emissions limitation under paragraph (3) or (4)(B) shall be submitted within one year of the date on which an emission standard applicable to the source is promulgated pursuant to subsection (f) and shall include supporting information as required by rule, necessary for the Administrator (or, where appropriate, the State) to make a determination with respect to the eligibility of the source for an alternative emissions limitation. The site-specific health risk assessment submitted by the owner or operator of the source in support of a request for an alternative emissions limitation shall comply with rules for preparing such health risk assessments promulgated by the Administrator pursuant to paragraph (7). The Administrator (or the State) shall make a determination upon any request one year before the date of compliance established for the emissions limitation promulgated pursuant to subsection (f) and the alternative emissions limitation shall be effective upon the date of compliance, or within one year after the date the Administrator (or State with an approved program) establishes an alternative emissions limitation, whichever is later. The Administrator (or a State with an approved program) may grant an extension permitting an existing source a period of up to two additional years to comply

with an alternative emissions limitation, if the Administrator (or State) determines, based on specific information submitted by the owner or operator of the source demonstrating good faith compliance efforts, that, in the absence of such extension the source would be forced to shut down.".

"(7)(A) Not later than five years after the date of enactment of this paragraph, the Administrator shall, after notice and opportunity for public comment, promulgate rules for the preparation of site-specific health risk assessments to be prepared in support of requests for alternative emissions limitations pursuant to paragraphs (3) and (4)(B). In promulgating such regulations EPA shall provide methods for submitting and including in the health risk assessment information concerning such factors as configuration of the facility, meteorology and terrain of the site, dispersion modeling and monitoring, exposure pathways, emissions factors, and the typical lifestyle (including length of residency within the vicinity of the source) and patterns of activity of the residents of the area. The site specific health risk assessment may consider all or a subset of the above factors as provided in the rules. However, the rules shall require that all data collected in the assessment must be available for inspection by EPA (or a State with an approved program).

"(B) The health risk assessments shall determine the maximum exposure to emissions of hazardous air pollutants from the source that could be reasonably anticipated for persons

residing in the vicinity of the source and shall estimate associated cancer risks to such persons. To the extent that mitigation strategies are used that relocate any such persons, the health risk assessment shall include the cancer risks to the actual persons after all mitigation measures are implemented, including an estimate of the alternative emissions limitation which would be necessary to provide that actual persons living within the vicinity of the source, who are most exposed to emissions of a hazardous air pollutant from the source (as identified in the site-specific health risk assessment) will not experience an individual lifetime risk of cancer exceeding one in ten thousand or one in one million as a result of such exposure.

"(8) Any permit incorporating an alternative emissions limitation authorized by paragraph (3) or (4)(B) shall be issued in accordance with the provisions of Title V of this Act.

10. On page 340, insert a semicolon after the word "promulgation", and insert thereafter the following:

"(3) The Administrator (or a State with an approved program) shall establish an alternative emissions limitation if the owner or operator of an existing source provides a site-specific health risk assessment, performed in accordance with regulations promulgated by the Administrator under subsection (i)(7)(A). Such alternative emissions limitation shall be established to protect public health with an ample margin of safety, based on the results of the site-specific health risk assessment."

Leak Detection

11. On page 400 beginning at line 9 strike all through page 400 line 16 and insert in lieu thereof:

"(g) Detection. Within thirty-six months of enactment, the Administrator shall conduct a study and report to the Congress, assessing the best available technology to monitor devices and systems (including, but not limited to pumps, compressors, valves, flanges, pipes, and pipelines, connectors, processes, containers and vessels), storage facilities, and transfer points adequate to detect immediately and report concurrently to the facility operator accidental releases of such substances from covered facilities. Such study shall include an assessment of the cost effectiveness and feasibility of each technology. The study shall build upon and not duplicate work conducted pursuant to section 305(b) of the Emergency Planning and Community Right-to-Know Act of 1986.After reviewing the findings of this study, the Administrator shall, within twenty-four months after completion, promulgate cost effective and technologically feasible regulations relating to accidental leak detection monitoring requirements.

Electric Utility Boilers

12. Beginning on page 335 at line 22 strike all through line 2 on page 336 and insert in lieu thereof:

"(5)(A) The Administrator shall conduct, and transmit to the Congress not later than three years after the date of

enactment of this paragraph, a study of emissions of hazardous air pollutants that are particulates from electric utility steam generating units.

"(B) The Administrator shall conduct, and transmit to the Congress not later than four years after the date of enactment of this paragraph, a study of mercury emissions from electric utility steam generating units considering the rate and mass of such emissions, the health and environmental effects of such emissions, and identifying whether there are feasible technologies to control such emissions and the costs of such technologies.

"(C)(1) Notwithstanding the requirements of subsection (e), standards under subsection (d) for the control of emissions of hazardous air pollutants that are particulate emissions from electric utility steam generation units shall be promulgated not later than five years after the date of enactment of this paragraph. Such electric steam generating units shall be in compliance with such standards not later than eight years after the date of enactment of this paragraph.

"(2) Notwithstanding the requirements of subsection (e), standards under subsection (d) for the control of emissions into the air of mercury from electric utility steam generating units shall be promulgated not later than five years after the date of enactment of this paragraph, if the Administrator concludes, based upon the study described in (B) above, that controls are required and are technically and economically feasible. Electric

steam generating units subject to any standards promulgated under this paragraph shall be in compliance with such standards not later than eight years after enactment of this paragraph.

"(D) Nothing in this section shall be construed to authorize the Administrator to promulgate standards requiring use of flue gas stream scrubbing technology by electric utility steam generating units for the control of hazardous air pollutants.

"(E) Emissions of organic and inorganic gases shall be included in determining whether an electric utility steam generating unit is a major source emitting twenty-five tons or more of hazardous air pollutants under this section.".

[Coke Ovens Insert Senate Committee fix]

Mandatory MACT for All Source Categories

13. On page 318 at the end of line 20 add "Notwithstanding the provisions of this paragraph, emissions from any oil or gas exploration or production well and emissions from any pipeline compressor station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such wells or stations are major sources.".

[This amendment is unchanged from the Senate staff draft]

14. On page 329 after line 14 add the following new paragraph:

"(7) Notwithstanding the provisions of paragraph (1), the

Administrator may remove from the list of source categories, or decide not to add to the list, any source category for which no source in the category emits a hazardous air pollutant in quantities that may reasonably be anticipated to cause a lifetime cancer risk greater than one in one million to the person or persons most exposed to emissions of such pollutants from a source in the category, and in addition, for which no source presents more than a negligible risk of other adverse health or environmental effects.".

Area Sources and Monitoring

15. On page 360 beginning at line 19 strike "including a reduction of not less than 75 per centum in the incidence of cancer attributable to emissions from such sources". [This amendment is unchanged from the Senate staff draft]

16. On page 364 add at the end of line 18, "The strategy shall be designed to achieve a goal, considering control of emissions of hazardous air pollutants from major sources required under this section, controls of emissions of hazardous air pollutants from stationary sources required under this or other statutes administered by the Agency, controls of mobile sources, and requirements for use of clean fuels under this statute, of reducing the incidence of cancer attributable to emissions of such pollutants from all sources by 75 per centum.".

17. Beginning on page 361 at line 24 strike all through line 10 on page 363 and redesignate succeeding paragraphs accordingly. [This amendment is unchanged from the Senate staff draft]

18. On page 365 after line 9 insert the following:

"(G) As part of such strategy the Administrator shall provide for ambient monitoring and emissions modeling in urban areas as appropriate to demonstrate that the goals and objectives of the strategy are being met.".

Accidental Releases

19. On page 388 at the end of line 21 insert "The Administrator (or the State) shall conduct compliance audits of hazard assessments prepared pursuant to this subsection, reviewing not less than 1.4 per centum. The requirements of this subsection shall be enforced in the same manner as the requirements of section 114. The Administrator is authorized to issue administrative orders pursuant to section 113 to assure compliance with the requirements of this subsection.". [This amendment is unchanged in substance from the Senate staff draft]

20. On page 385, strike lines 9 and 10 and insert in lieu thereof the following:

"the Administrator shall consider the extent to which each of the following elements should be required:".

21. On page 386, strike lines 7 through 14, and renumber subparagraphs (G) and (H) as (E) and (F) respectively.

22. On page 386, line 15, insert "readily available" before "information".

23. On page 386, line 24, after the word "subsection", insert the following:

"for a facility with emissions of substances listed under subsection (c) in amounts of 100 tons per year or more".

24. On page 386, line 24, after the word "biennially.", insert the following:

"Each hazard assessment prepared pursuant to this subsection for a facility with reported emissions of substances listed under subsection (c) in amounts less than 100 tons per year shall be updated every five years."

25. On page 386, strike lines 20 through 22.

Definition of MACT

26. On page 331 beginning at line 6 strike "if the Administrator determines that the level of control applicable to new sources is generally technically or economically infeasible for existing sources in the category or subcategory and, considering, sequentially, the level of control achieved by existing sources

in the category or subcategory beginning with the most stringent such level, establishes an emissions limitation which is generally feasible and assure the maximum total reductions in emissions from all sources in the category or subcategory. The Congress finds that a reduction of 90 per centum (95 per centum in the case of particulates) from uncontrolled levels is an appropriate benchmark for emissions standards applicable to existing sources under this subsection."

Insert in lieu thereof:

"provided, that, the emissions limitations for existing sources in the category or subcategory shall be at least as stringent as the emissions controls achieved in practice by the best controlled similar sources. The Congress finds that a reduction of 90 per centum (95 per centum in the case of particulates) from uncontrolled levels or the average control achieved by the best controlled 10 per centum of similar sources in a large category of sources is an appropriate benchmark for emissions standards applicable to existing sources under this subsection."

New Source Compliance Date

27. On page 352 after line 20 add the following new paragraph:

"(13)(A) A source for which construction or reconstruction is commenced after the date an emissions standard applicable to such source is proposed pursuant to subsection (d) but before the

date a final emissions standard applicable to such source is issued pursuant to subsection (f) or (g) shall not be required to comply with the emissions standard under subsection (f) or (g) until the date ten years after the date construction or reconstruction is commenced.

(B) Except as provided in paragraph (D), any source for which construction or reconstruction is commenced after the date an emissions standard applicable to such source is issued pursuant to subsection (f) or (g) shall be required to comply with such emissions standard on the date of commencement of operations.

(C) A source for which construction or reconstruction is commenced after the date an emissions standard applicable to such source is proposed pursuant to subsection (d) but before the date a final emissions standard applicable to such source is issued pursuant to subsection (f) or (g), may request an alternative emissions limitation in accordance with subsection (i)(D)(6).

(D) A source for which construction or reconstruction is commenced after the date an emissions standard applicable to such source is issued pursuant to subsection (f) or (g) may request an alternative emissions limitation before commencement of operations, and shall include supporting information as required by rule, necessary for the Administrator (or State) to make a determination with respect to the eligibility of the source for an alternative emissions limitation. The site-specific health

risk assessment submitted by the owner or operator of the source in support of a request for an alternative emissions limitation shall comply with the rules for preparing such health risk assessments promulgated by the Administrator pursuant to paragraph (7). The Administrator (or the State) shall make a determination upon any request one year before the source would be required to comply with an applicable emissions standard promulgated pursuant to subsection (f) or (g). The alternative emissions limitation or, if the request is denied, the applicable emission standard under subsection (f) or (g), shall be effective upon the date of compliance, or within one year of the date the Administrator (or State) acts on the request for an alternative emissions limitation, whichever is later. The Administrator (or the State) may grant an extension permitting a source a period of up to two additional years to comply with an alternative emissions limitation, if the Administrator (or State) determines, based on specific information submitted by the owner or operator of the source demonstrating good faith compliance efforts, that, in the absence of such extension the source would be forced to shut down".

Permits

28. On page 352 beginning with line 22 strike all through line 5 on page 360.

[Explanation: the substance of these permit provisions

unnecessarily duplicates the permit program established by Title V of the Senate Bill.]

Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03. Memo	From James Watkins to John Sununu Re: Possible Bipartisan Substitute to the Clean Air Bill (2 pp.)	2/23/90	P/5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Clean Air (2 of 3) (1990) [2]

Open on Expiration of PRA
(Document Follows)
By ___ (NLGB) on 5/12/05

Date Closed:	12/7/2004	**OA/ID Number:**	29148-003
FOIA/SYS Case #:	1998-0004-F[1]	**Appeal Case #:**	
Re-review Case #:	2005-0426-S	**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
AR Case #:		**MR Case #:**	
AR Disposition:		**MR Disposition:**	
AR Disposition Date:		**MR Disposition Date:**	

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]
P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
P-3 Release would violate a Federal statute [(a)(3) of the PRA]
P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [a)(5) of the PRA]
P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Removed as a personal record misfile.

Freedom of Information Act - [5 U.S.C. 552(b)]

(b)(1) National security classified information [(b)(1) of the FOIA]
(b)(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
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(b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
(b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
(b)(9) Release would disclose geological or geophysical information

The Secretary of Energy
Washington, DC 20585

February 23, 1990

THE CHIEF of STAFF has seen

MEMORANDUM FOR THE HONORABLE JOHN H. SUNUNU
CHIEF OF STAFF TO THE PRESIDENT

SUBJECT: Possible Bipartisan Substitute to the Clean Air Bill.

This is the proposal I think will gain a majority of the votes on the Senate floor. It uses the President's bill, not the Environment and Public Works Committee's bill as its base because there is greater support for the President's bill and it has been out in the public view longer for everyone to understand its impact. This comprehensive substitute also provides the political cover necessary for all the members to ensure that a minimum of votes are cast on these issues:

1) Air Toxics - Stick with the President's provisions, possibly modified by Senator Domenici's proposal. (copy attached)

2) Non-Attainment - Stick with the President's provisions.

3) Acid Rain -

   a) Fix the Class of '85 problem.
   b) Extend the clean coal technology deadlines from 2003 to 2005.
   c) Expand qualifying technologies in the clean coal technology program.
   d) Extend coverage to plants less than 75 megawatts in in order to achieve sufficient emissions reductions to offset solving the Class of '85 problem.
   e) Add the 2% reserve on emissions credits to be held at EPA, taken from the EPW bill.
   f) Provide transition rules for coal fired power plants under construction.

ALTERNATIVE FUELS

- Provide for program in areas of CO non-attainment
- Compressed natural gas use in fleet vehicles
- Ethanol incentives (mandate)

This would produce a bill a majority of Democrats and Republicans could support. Unfortunately, our delay in putting together an alternative like this has allowed our support to erode as Senator Mitchell begins to pick off individual Senators for a proposal based on the EPW bill. Again, we have a unique opportunity here because the President has such a fine proposal already on the table.

James D. Watkins
Admiral, U.S. Navy (Retired)

PRELIMINARY DOMENICI PROPOSAL

ALTERNATIVE PROPOSAL:

Therefore, in determining what regulations to issue in evaluating residual risk, EPA should consider the actual levels at which actual communities will be exposed to chemicals. The primary objective would be to provide public health protection by allowing consideration of incidence and other factors relevant to the actual levels of chemicals to which actual communities are exposed. The MEI would be one of many factors considered when making decisions about the need for further reductions.

The following proposal would replace the residual risk section of the Senate bill.

o Require the National Academy of Sciences to undertake a comprehensive review of current risk assessment methodology used by EPA and alternative approaches and to report to the Congress within 18 months with recommendations on how the process can be improved to adequately protect public health.

o Upon issuance of the report, EPA is required within 12 months to revise its Risk Assessment Guidelines to take into account these recommendations.

o Establish a Risk Management Commission -- made up of 3 members of the scientific community, 6 members chosen from the public representing a balance of views, the Administrator of the EPA, the White House Science Advisor, the Chairman of the NAS Risk Assessment Methodology Committee, Chairman of the SAB, and the Director of the National Institutes of Health. The President to choose private sector members, and designate a Chairman who is well versed in the scientific issues and who demonstrates an understanding of the policy questions.

o The purpose of the Commission would be to provide guidance (1) in defining policy questions pertaining to what is an acceptable risk; (2) the weight that should be given to different factors during the risk assessment process; (3) how EPA should weigh different factors when faced with potential shutdown of certain source categories; and (4) any other

guidance to assist the EPA Administrator in making determinations on how to evaluate remaining risks from sources after MACT is installed. The Commission must issue a final report within 4 years after enactment.

o Upon receipt of these recommendations, EPA is required within 18 months to complete a rulemaking (fully taking into account these recommendations), outlining the procedures it will use to evaluate remaining risks of source categories. No judicial review of this rulemaking would be allowed. Two years after issuance of the rulemaking (tied to when MACT is installed), EPA would establish standards for additional emissions reductions that would be required at source categories.

o The additional controls would have to be in place no later than 5 years after EPA promulgates the standards.

o Leave open door for source specific reviews -- not only to allow a source to avoid the second round of controls if they can demonstrate that their specific situation does not constitute a risk, but also for EPA to go in and require more of a specific source whose specific situation presents a risk greater than other sources of that category.

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04a. Memo	From Frederick McClure to John Sununu Re: Clean Air Comments (1 pp.)	3/1/90	P-5	

Collection:

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Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Clean Air (2 of 3) (1990) [2]

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(b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
(b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
(b)(9) Release would disclose geological or geophysical information

THE WHITE HOUSE
WASHINGTON

March 1, 1990

MEMORANDUM FOR JOHN H. SUNUNU

FROM: FREDERICK D. McCLURE

SUBJECT: Clean Air Comments

Following are my notes David Sloan on my staff prepared relating to Republican and Democrat caucuses on clean air today. It is my understanding that both had "dissenters," some of whom are worried about whether the Environment and Public Works committee staff can and will draft language that accurately reflects decisions made. OMB and EPA staff will be working with Committee staff in this regard over the weekend.

Even with "accurate" drafting, it remains my view that efforts to "liberalize," or "make the draft more accurately reflect decisions made," will occur during floor consideration, but that obtaining majority support will not be possible. Dole's comments in the press conference encouraging Mitchell to not file a cloture petition prematurely provides an opportunity -- on both sides -- for efforts to amend the bill for those who feel the need to make "statements" for their respective constituencies. For example, although Byrd (not a signatory to the agreement) indicated that he will not engage in a filibuster attempt, he nonetheless will offer one or more amendments to "make the bill better."

I suspect that Mitchell will attempt to reach closure by Thursday of next week; maybe Friday, in order to prevent stronger opposition from mobilizing during the following week's Senate recess. We must expect, however, efforts from the left (Wirth, et al.) and the right (Symms, et al.) to change the bill or delay final floor action. With a combined front, led by the Senate and Committee leadership, in conjunction with the White House, those efforts should generally fail, thus clearing the way for a bill very close to the negotiated package which differs very little from the President's proposal.

Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
04b. Memo	For Frederick McClure Re: Analysis of several senators' views on Clean Air Act (2 pp.)	3/1/90	P/5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Clean Air (2 of 3) (1990) [2]

Open on Expiration of PRA
(Document Follows)
By JH (NLGB) on 5/12/05

Date Closed:	12/7/2004	**OA/ID Number:**	29148-003
FOIA/SYS Case #:	1998-0004-F[1]	**Appeal Case #:**	
Re-review Case #:	2005-0426-S	**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
AR Case #:		**MR Case #:**	
AR Disposition:		**MR Disposition:**	
AR Disposition Date:		**MR Disposition Date:**	

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]
P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
P-3 Release would violate a Federal statute [(a)(3) of the PRA]
P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [a)(5) of the PRA]
P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

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Freedom of Information Act - [5 U.S.C. 552(b)]

(b)(1) National security classified information [(b)(1) of the FOIA]
(b)(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
(b)(3) Release would violate a Federal statute [(b)(3) of the FOIA]
(b)(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]
(b)(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]
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March 1, 1990

NOTE TO FRED MCCLURE

Per your request, the following is a rundown of Senators who expressed concerns about the CAA agreement during the GOP caucus this morning, and what those concerns are. I have also indicated where a call from Governor Sununu might be helpful. Despite the feedback you may have received, most of the concerns were not serious and can be addressed with a little T.L.C. I am including a two-page factsheet for your info.

Stevens -- He is concerned about Section 217 of the Senate bill which provides EPA with substantial new authority to regulate fuel quality. EPA would be required to issue new fuel quality standards within 36 months of enactment to facilitate the production of reformulated gas and other alternative fuels. He feels this would create problems for Alaskan refineries. Under the terms of the agreement (support through Senate passage those issues specifically addressed in the negotiations), we are free to support his amendment, if we choose to do so. EPA views the language as gratuitous and unnecessary. Stevens will be fine. A call is not necessary, but would not hurt.

Symms -- He is fundamentally opposed to the package, and will not alter his views. You will recall, he felt even the President's bill went too far. A call is not useful here.

Heinz -- He is concerned about the process, but is satisfied with the product. With respect to the drafting of the bill language, he is leery about how the acid rain compromise will come out at the hands of the EPW staff. We have told him we will be a party to the drafting sessions and will not clear off on going to the floor until we have reviewed every provision. He is fine and does not need a call.

McConnell -- McConnell believes two plant specfic fixes he won agreement on during the acid rain negotations have not been properly reflected in the language by EPW staff. Sununu should call him and assure him that we will assist him in achieving these fixes.

Nickles -- He believes, as do a number of the more conservative Senators (including Dole), that the Administration cost estimates of the agreement (particularly air toxics) are too low. During the caucus he playfully exhorted Administration representatives to "be sure and tell the truth to the President about the real costs...." of the agreement. A call from the Governor would be helpful. He will probably be okay on the package, but has serious concerns about the air toxics 1 x 10 to the minus

[redacted]

four standard, and the alternative fuels provisions, given his oil and gas connections.

Dole -- He is very concerned about Mitchell's failure to get Lautenberg and Leiberman to sign off on the agreement. Lautenberg has begun to attack the package and line up with the enviros, but Leiberman's position is not yet clear. Dole doesn't want GOP Senators put through a lot of painful environmental votes by liberal Democrats. Sununu should call him to check in and take his temperature. We will not be able to do much to shore up these Senators, but feel the support of Durenberger, Jeffords, Chafee and Mitchell cast a fairly large shadow.

McClure -- He is worried that language will not adequately reflect the agreement in the rush to the floor; Mitchell plans to lay it down Monday (no votes), with the amendment process proceeding thereafter. OMB and EPA staff will be participating in the drafting sessions this weekend; Mitchell understands we will not sign off until we have reviewed each provision. Sununu might want to call and assure him we will leave no stone unturned. He should also thank him for being one of the more active and supportive of the GOP Senators in the negotiations. He will be okay on the package.

Lott -- He is concerned about drafting the language for the NOX provisions and the regulations that EPA must promulgate to implement that language. Sununu might want to call him to assure that we will carefull scrutinize the process. He will be okay on the process.

file Clean air

HIGHLIGHTS OF THE BIPARTISAN SENATE CLEAN AIR ACT AGREEMENT

Acid Rain

- The agreement requires permanent, substantial reductions in emissions which cause acid rain. It will ultimately reduce SO2 emissions by 10 million tons per year below 1980 levels.
- The agreement establishes an SO2 emissions trading system to ensure that reductions are achieved in the most cost effective way and a cap on SO2 emissions to ensure that they are permanent.
- The agreement includes provisions to allow the use of clean coal technology.
- The agreement provides provisions to encourage early reductions and to ensure that States have the ability to grow.

Mobile Sources

- The agreement contains substantial reductions in tail pipe emissions for cars and light trucks beginning model year 1994.
- If air quality goals have not been met in a sufficient number of cities, the agreement provides for a second round of even more stringent tail pipe controls.

Alternative Fuels

- The agreement adopts for the first time a broad program to require the use of cleaner fuels in America's most polluted studies.
- The plan would be implemented in two phases, with reductions of 20% in hydrocarbons and 12% in air toxics called for in the first phase, and reductions of 30% of hydrocarbons and 27% in air toxics called for in the second phase.
- The agreement would require Federally owned and centrally-fueled fleets to use especially clean fuels.

Air Toxics

- The agreement provides for the use of Maximum Available Control Technology (MACT) to reduce 75 to 90% of air toxics emissions in the next 10 years.
- The agreement includes provisions to sharply limit any remaining risk after the application of MACT.
- The agreement provides for a study by the National Academy of Sciences and the establishment of a national commission to improve risk assessment methods and to scientifically address the question of remaining risk.

Non-Attainment of Ozone Standards

- The agreement sets deadlines to bring the majority of American cities into attainment with ozone standards by the end of the century.
- The agreement establishes ambitious annual ozone reduction requirements to guarantee, for the first time, measurable progress toward meeting the ozone standards.
- The agreement requires tough sanctions and Federal penalties against areas that are not working to achieve air quality requirements.

SUMMARY OF BI-PARTISAN SENATE CLEAN AIR ACT AGREEMENT

NONATTAINMENT OF HEALTH STANDARDS FOR OZONE

For the past month, representatives of the Administration and members of the Senate from both parties have been meeting to discuss proposed revisions to the Clean Air Act. Today, the Senators and the Administration reached an agreement to support on the Senate floor a series of provisions encompasing virtually all of the major areas by the Act. A summary of those provisions follows.

PROVISIONS FOR ATTAINING HEALTHY AIR STANDARDS

Currently over 100 areas in the United States do not meet health standards under the Clean Air Act for ozone (smog); more than 40 areas are failing to attain the carbon monoxide standard; and an estimated 58 areas exceed the health standard for particulate matter (PM-10). State and local governments have a major responsibility for implementing measures that will reduce pollution to levels that do not threaten health; the Federal government sets certain minimum requirements and assures that States carry out their responsibilities.

Title I of the agreement divides areas that fail to meet any one of the pollutant standards listed above into categories, depending on the severity of the pollution problem, and sets out requirements of different levels of stringency for each category. Following is a summary of the provisions of title I:

- Depending on the severity of the pollution problem, nonattainment areas for any of the pollutants must attain the health standard within five, ten, or fifteen years (twenty years for Los Angeles) for ozone.

- Nonattainment areas for each of the pollutants must achieve specified increments of progress from the present until the health standard is achieved. This new requirement will ensure early ozone reductions and, for the first time, steady progress toward meeting the standard. In the case of ozone, areas must reduce emissions of volatile organic compounds (VOCs), a precursor of ozone, by 4% per year for the first six years after the amendments are enacted, and 3% per year (with waivers for certain specified conditions) thereafter until the standard is attained.

- In areas exceeding the standard for ozone, service stations dispensing more than 20,000 gallons per month are required to install equipment on gasoline pumps to reduce emissions of VOCs.

- Vehicle inspection and maintenance programs must be upgraded in ozone and carbon monoxide areas that already have such programs and must be instituted in most other areas that do not already have them.

- The Administrator of the Environmental Protection Agency is required to impose one of the following sanctions in an area that fails to prepare or implement a plan that achieves a health-based air quality standard: a ban on construction of new sources of a pollutant, limited use of Federal highway funds, a ban on provision of new drinking water hookups, or withholding of Federal air pollution funds.

- The definition of major sources in current law is retained, but any construction ban imposed in an area will apply to sources that emit more than 25 tons of VOCs.

- Sources will continue to be allowed to "net out" increases and decreases of emissions when a plant is modified.

- When a State fails to develop a plan that meets the requirements of the law, the Environmental Protection Agency is required to impose one new Federal Implementation Plan control measure each year the failure continues.

- The Environmental Protection Agency is required to issue control requirements for a number of sources of pollution, including commercial and consumer products.

- Polluters are required to pay fees to cover the cost of a State or local air pollution control agency's permitting program and a fee to pay the costs reasonably incurred by EPA in regulating the pollution.

TITLE II: MOTOR VEHICLE-RELATED PROVISIONS

Cars and trucks currently account for almost 50% of the smog (ozone) pollution and 90% of the carbon monoxide pollution in urban areas in the United States. They are also responsible for significant emissions of toxic pollutants. It is not only the vehicles but the fuel they use that cause pollution.

The agreement contains the following measures to reduce these pollutants:

Tailpipe Standards for Cars and Trucks

- Auto manufacturers are required to reduce tailpipe emissions of hydrocarbons and oxides of nitrogen, which form smog, by 22% and 60%, respectively, beginning with 40% of the vehicles

sold in 1993 and increasing to 100% of vehicles sold in 1995. Comparable reductions are required for vehicle classified as light trucks such as vans and pickups.

- If more than 11 of 27 cities currently seriously polluted do not attain the health standard by the end of 2001, a second round of reduction emissions from cars--equal to an additional 50% reduction in CO, hydrocarbon and NOx--will be required beginning with all cars sold after October 1, 2003.

- In addition, if pollution is greater than 25% above the health based standard in the year 2000 in any area currently severely polluted by ozone, beginning in 2004 cars sold in that area must meet more stringent emission standards for NOx, CO, and hydrocarbons.

- EPA will study and recommend to Congress alternative methods to achieve the tailpipe emission reductions provided for in model year 2004. Congress will consider adopting alternative methods under expedited procedures.

Other Requirements

- Vehicle manufacturers must install systems to alert drivers when an emission control system is malfunctioning.

- Auto manufacturers are required to install canisters on vehicles to capture hydrocarbons that would otherwise be emitted into the atmosphere during refueling, but the Administrator of EPA is authorized to suspend for two years the requirement if a study to be carried out by the Department of Transportation determines that the refueling systems are not safe. Based on the study, Congress will vote under expecited procedures on whether to rescind the requirement.

- Fuels sold in areas with unhealthy leels of carbon monoxide will be required to contain a specified oxygen content, which reduces emissions of carbon monoxide from vehicles. The oxygen content can be increased through additives such as ethanol, which is made from corn or other agricultural products, or derivatives of natural gas.

- Requires new transit buses, beginning in 1991, to use cleaner fuel such as natural gas or methanol.

Clean Fuels Standards

Phase I Program

-- The program begins with Model Year 1995 vehicles sold in the nine cities with the most severe ozone nonattainment problem. All new vehicles sold in those cities will achieve an overall reduction in emissions to a level not more than .75 grams per mile ozone-forming emissions. The current fleet of passenger cars emit approximately 2.8 gpm. The Phase I vehicles are also to achieve a 12% reduction in air toxic emissions.

-- The emissions reductions will be met primarily through the use of cleaner fuels. By January 1992, EPA is to issue specifications for various alternative fuels, including ethanol, methanol, CNG, electricity, and LPG, as well as reformulated gasoline that will achieve the emissions reductions required used in conventional vehicles. The preformance standard will be fuel neutral.

Phase II Program

-- The standards are tightened beginning in MY 1999. The ozone-forming emissions must not exceed .66 gpm in-use and the toxics emissions reduction is to be 27% below emissions from conventional vehicles. EPA has the authority to reduce the toxics emissions reduction requirement to 18% if 27% is not achievable.

-- As with Phase I, the emissions reductions can be achieved primarily through use of alternative fuels.

Role of the States

-- Implementation of the alternative fuels program will be undertaken aspart on State Implementation Plans.

-- States can "opt-up" requiring that cleaner cars (like the fleet car described below) be sold in larger quantities.

-- States can "opt-in" allowing cities other than the 9 specified in the bill with nonattainment problems to join the program.

-- California may develop its own alternative fuels program (and one has been proposed). Other states may adopt the California model, provided that their implementation plans contain incentives to encourage vehicle sales and use.

-- Fuel suppliers will make available for sale alternative fuels at conveniently located service stations.

Fleets

-- A program for fleet vehicles is included in the agreement. Fleet vehicles covered by the program would be substantially cleaner than conventional vehicles achieving ozone-forming emission reductions of approximately 80% (an in-use emissions rate of .25 gpm HC) and toxics reductions of 75%.

-- The alternative fuels program would apply first to fleets owned by Federal agencies and used in ozone nonattainment areas. The program would be phased in beginning in 1995.

-- Beginning in 1997 the fleet program would apply to fleet vehicles operated in the private sector. Fleets of more than 20 vehicles (which are centrally fueled and maintained) operating in the 9 cities with the most severe ozone nonattainment problems would be covered and 30% of new vehicle purchases must meet the alternative fuels standards.

-- Auto manufacturers who sell cleaner vehicles which operate above the standards will receive credits under a banking trading program.

Title III. Air Toxics Provisions

Air Toxics Provisions

Routine Emissions from Major Sources

List of Pollutants and Source Categories:

-- The agreement contains a list of approximately 200 hazardous air pollutants taken from the Administration's bill.

-- EPA is to establish a list of source categories (chemical plants, oil refineries, coke ovens, cotton gins, smelters, etc.) for the purpose of promulgating standards. Any source emitting any one of the listed pollutants in quantities greater than 10 tons or any combination greater than 25 tons is classified as a major source and subject to regulation under the bill.

-- EPA is to revise the list of pollutants from time to time and act upon petitions to add or delete substances from the list.

MACT Standard

-- For each category of sources, EPA will promulgate a standard which requires the installation of maximum achievable control technology (MACT).

-- Standards are to be promulgated within 2, 3, 5, and 10 years of date of enactment, depending upon the source category. The standards for approximately a dozen organic solvents are required within 2 years.

-- Existing sources must comply with MACT standards not later than 3 years after promulgation.

-- MACT standards are not required for source categories that pose less than a 1-in-1,000,000 risk of cancer.

-- With respect to electric utility boilers, only particulate and mercury emissions are to be regulated with a MACT standard. EPA is not authorized to require flue gas scrubbers to control emissions of hazardous air pollutants from utility boilers.

Voluntary Pollution Prevention Reduction

-- Any source making an early reduction of 90% below 1985 emissions levels shall be exempt from the MACT standards.

Residual Risk

-- The agreement contains provisions to reduce any significant risk to public health which may remain after the application of MACT.

-- If, after installation of MACT, a significant risk remains, EPA must promulgate health-based standards 5 years after initial promulgation of the MACT standard.

-- The National Academy of Sciences is to conduct a study of the risk assessment methods currently used by EPA and alternative methods in setting health standards. EPA is to revise its Guidelines for Carcinogenic Risk Assessment based on the NAS study.

-- A commission to study the use of risk assessment methods in controlling hazardous air pollutants is to be established. The commission is to report to the Congress on residual risk policy questions. Expedited legislative procedures are provided to assure a vote in the Congress on legislation with respect to any recommendations made by the commission.

-- If Congress does not choose a residual risk standard after the Commission reports, two residual risk standards for carcinogens are automatically adopted. The goal is a cancer risk not greater than 1-in-1,000,000 for those persons most exposed to emissions from a source. The upper limit on cancer risk is 1-in-10,000.

-- The owner or operator of a source may provide a site-specific health assessment of pollutants released from the source to show the actual impact of those pollutants on public health within the vicinity of the source. Sources which impose actual cancer risks exceeding 1-in-10,000 must take mitigation measures or shutdown. Sources must use available technology to reduce actual cancer risks striving to reach the goal of cancer risk not exceeding 1-in-1,000,000 to the most exposed actual person.

-- Steel plants installing the most stringent level of control on emissions from coke ovens before 1995 are given an extension to 2020 before the residual risk health standards apply.

Routine Emissions from Area Sources

-- Area sources are small industrial or commercial operations such as dry cleaners, service stations, wood stoves which emit air toxics.

-- Based on the list of hazardous air pollutants, EPA can list an area source category just as the Agency would list a major source category and require MACT. EPA also is authorized to require generally achievable control technology for area sources, which is less stringent than MACT.

-- The agreement establishes an area source control program to reduce the risks from area sources. Under the program EPA is to conduct research on area sources of air toxics, which is to include a monitoring program, and an inventory of the sources of those toxics.

-- Five years after enactment, EPA is to propose a national urban air toxics strategy to significantly reduce risks associated with urban air toxics from areas sources. The goal of the strategy is to reduce cancer cases attributable to air toxics by 75%. EPA is to report on reductions achieved in 8 and 10 year intervals.

Sudden, Accidental Releases

-- The agreement contains a program to reduce the likelihood of catastrophic, chemical accidents.

-- A general duty to operate a safe facility is imposed on the owner or operator of each facility handling extremely hazardous substances.

-- The agreement establishes a Chemical Safety Board to investigate chemical accidents, similar to the National Transportation Safety Board. The Board would make recommendations to EPA on measures which can be taken to reduce the likelihood of accidents in particular industries.

-- EPA is authorized to promulgate accident prevention regulations.

TITLE IV: ACID RAIN PROVISION

Acid rain continues to pose a grave threat to the environment. The agreement incorporates a system of SO2 emissions trading and a cap on SO2 emissions at 10 million tons below 1980 levels so as to allow SO2 emission reductions to be achieved in the least costly way, and to ensure the permanence of these reductions.

Reduction Requirements for Sulfur Dioxide

- The agreement achieves the same total of sulfur dioxide reductions as originally proposed by President Bush, ultimately reducing SO2 by 10 million tons below 1980 levels each year.

- Both Phase I and Phase II begin one year earlier than originally proposed by President Bush.

- Annual sulfur dioxide emissions are capped beginning in the year 2000.

- In Phase I, which begins January 1, 1995, utility power plants emitting at a rate above 2.5 pounds of sulfur dioxide per million Btu (about 111 plants) will have to reduce their emissions to a level equal to 2.5 lbs./mmBtu multiplied by their average 1985-87 fuel consumption measured in Btu.

- Plants that use certain control technologies to meet their Phase I reduction requirements may either postpone compliance until 1997 or receive early-reduction bonus allowances for reductions they achieve between 1995 and 1997. In addition, Phase I plants that use certain control technologies will also receive two allowances for every ton of reduction they achieve below a 1.2 lbs./mmBtu level during Phase I.

- In Phase II, which begins January 1, 2000, all utility power plants emitting at a rate above 1.2 lbs./mmBtu will have to reduce emissions to a level equal to 1.2 lbs./mmBtu multiplied by their average 1985-87 fuel consumption measured in Btu.

- Nationwide, plants that emit SO2 at a rate below 1.2 will be able to increase their emissions between now and the year 2000 by roughly 20% and will then be limited to that level in order to maintain the nationwide cap on SO2 emissions.

- Bonus allowances are distributed to accommodate growth by units in States with emissions below 0.8 and by units that have experienced substantially increased utilization in the last five years.

- The 1977 "percentage reduction" requirement for coal is repealed once the emissions cap goes into effect.

Marketable Allowances

- In addition to its pollution control permit, each source will receive allowances equal to the tons of pollution it is permitted to emit.

- If a source reduces its pollution more than required, it will have left-over allowances it can sell to another source -- which would permit the second source to emit more than required while remaining in compliance. This ensures that total reductions will be achieved in the most cost-effective way and that reduction costs will be allocated in a fair way.

Utility NOx Emissions

-- The agreement achieves the same NOx reductions as S. 1630 in the year 2005, and by providing for earlier NOx reductions provides greater NOx reductions in the year 2000.

-- There is no NOx/SO2 trading and no allowance system established for NOx.

-- Not later than 1993, EPA is required to establish performance standards under which utilities, required to reduce sulfur dioxide emissions in Phase I are also required to control their NOx emissions in Phase I based on the performance standards for certain boiler types. The emission standards will be based on low NOx burner technology.

-- Not later than 1997, EPA is required to establish performance standards for all remaining types of utility boilers. Remaining affected sources under the acid rain title must meet these standards by the Phase II deadline. This standard will also be set based on low NOx burners, and will be updated as new technologies are developed.

-- EPA is required to promulgate a revised NOx New Source Performance Standard for utility boilers.

Clean Coal Technology

-- Temporary clean coal technology demonstration projects (those operating for 5 years or less) are exempt from the requirements of Title I of the Clean Air Act.

-- Permanent demonstration projects that are retrofits are presumed not to be major modifications.

-- Permanent demonstration repowering projects are exempt from Part C and section 111 requirements if their potential emissions for any criteria pollutant do not increase over the potential emissions before the project.

-- Non-demonstration repowering clean coal technologies are exempt from New Source Review if actual emissions for any criteria pollutant do not increase over previous emissions. If there is an increase in emissions, States are encouraged to give such projects expedited review.

Permits and Enforcement

There remain significant disagreement between the Administration and the Senate on permits and enforcement. Senate and Administration staff have been meeting, but have not yet concluded work on changes to those titles. In the event that agreement on outstanding differences cannot be reached before floor consideration of the clean air bill resumes, the parties to the agreement would not be bound to support changes to the permit and enforcement titles.

OTHER ISSUES

Chloroflurocarbons

S. 1630 contained a title, as amended, to phase out the use and production of chlorofleurocarbons. The title was not covered by the agreement and the parties reserve the right to consider changes to its provisions.

Incinerators

S. 1630 contained provisions to regulate emissions and ash from waste incinerators. These provisions were not covered by

the agreemont and the parties reserve the right to consider changes to them.

COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

MEMBER OF THE COUNCIL

February 9, 1990

CLOSE HOLD

THE CHIEF of STAFF has seen

MEMORANDUM FOR MICHAEL BOSKIN

FROM: RICHARD SCHMALENSEE
ROBERT GRADY
WILLIAM ROSENBERG

SUBJECT: Senate Clean Air Negotiations,
Preliminary Status Report on Costs

In the January 23 Cost Comparison circulated by EPA, the original Administration proposal and the Senate bill (S. 1630 as reported) were estimated to impose annual costs of $18.9 billion and $41.9 billion respectively in 2005, when all provisions of both bills would be fully phased in. Discussions of cost, persuant to item 2 of the President's January 19 letter, have focused on these two figures and the gap between them. It is important to note, however, as the January 23 paper does, that the Administration was unable to construct estimates of the costs of several objectionable and potentially expensive features of the Senate bill. Thus the $23 billion annual cost gap in the January 23 paper understates the original cost difference between the two bills.

Some provisions of the two Clean Air proposals have been discussed in detail with the Senate. Because the President's January 19 letter relates to overall impacts, the Administration cannot agree (and has not agreed) to any changes in the Adminstration bill until a complete alternative package is assembled and both its economic cost and evironmental benefits are evaluated and found acceptable. Nonetheless, several tentative compromise provisions have been identified, and progress is being made on a variety of other differences. The purpose of this memorandum and the attached table is to provide very preliminary estimates of the cost implications of these discussions, as they now stand.

We estimate that if the tentative compromise provisions identified to date were to replace the corresponding provisions of the Senate bill, the $23 billion cost gap would be reduced by about $6 billion. (Item 2 on the table.) This would reduce the gap to $17 billion and leave the cost of the Senate bill at about $36 billion, almost double the cost of the Administration's bill. This estimate assumes that implementation language now being drafted will reflect our understanding of the proposed compromises. If it does not, the gap could be still wider.

The outlines of a tentative compromise on the residual risk air toxics provision has been identified. There seems a good chance that tentative compromise legislative language now being analyzed will reduce the cost gap by most or all of the $4.5 billion due to differences between the Senate and Administration residual risk air toxics provisions. (Item 3 on the table.) But until the draft legislative language has been fully analyzed, we cannot provide any estimate of the actual cost savings it implies. If all of this cost is eliminated, the cost of the Senate bill would drop to $31.5 billion, versus $18.9 for the Administration bill.

No tentative compromises have as yet been reached on provisions accounting for $11.6 billion of the cost difference between the Senate and Administration proposals. (Item 5 on the table.)

Tentative compromises have added $0.9 billion to the January 23 estimate of the Administration bill costs. (Item 6 on the attached table.)

As noted above, the January 23 analysis did not include specific cost estimates for a number of differences between the two bills that, nonetheless, may have serious economic consequences. (These facts were explicitly noted in the January 23 document.) Tentative compromises have been reached on some of these issues. The Senate has tentatively agreed to reduce the cost of its bill by

- o dropping the CO_2 standard for automobiles,
- o allowing netting and 1:1 offsets in nonattainment areas,
- o adopting our (100 ton) definition of a major source, and
- o including a cost-based waiver provision for progress requirements in ozone non-attainment areas.

On the other hand, no tentative compromises have yet been identified for the following potentially costly provisions of the Senate bill:

- o CFC phase-out requirement,
- o special energy supply requirements for Federal facilities,
- o Great Lakes and coastal waters air toxic monitoring networks and research programs,
- o municipal waste combustor provisions, and
- o transportation control measures (including the requirement that employers reduce passengers per car used to commute to work, though parking fee sanctions are out).

The Senate seems ready in principle to add an alternative fuels provision to their bill, but they do not consider it a replacement for their Tier II tailpipe requirement, nor have they spelled out the details of a provision that they would find acceptable. There is thus no figure for alternative fuels in the table that follows.

VERY PRELIMIMARY ESTIMATES OF
COST IMPLICATIONS OF CLEAN AIR DISCUSSIONS
(Year 2005 costs in millions of present-year dollars)
(Totals may not add due to rounding)

(1) Senate Bill cost estimate (January 23):			41,900
(2) Tentative cost-saving (vs. Senate bill) compromises:			
Ozone Non-attainment			
Consumer Solvents	570		
Fees	220		
Definition of Major Source	84		
Progress Requirements	2,100*		
Air Toxics			
Leak Detection	2,000		
Utility Air Toxics	918*		
Urban Monitoring	87		
TOTAL		5,979	
(3) Air toxics residual risk cost gap: (tentative compromise language exists; cost implications not yet analyzed)		4,500	
(3) Senate Bill after tentative cost-saving compromises: (range reflects uncertainty in (3))			35,921-31,421
(5) Cost differences on which no tentative compromises have been reached:#			
Ozone Nonattainment			
Tier II Tailpipe (HC)	7,200		
Other Mobile (Tier II NOx/CO)	2,522		
Inspection/Maintenance	-60		
CTGs	100		
Air Toxics			
Mobile Source Toxics	1,500		
Acid Rain	400		
TOTAL		11,662	
(6) Tentative cost-increasing (vs. Administration bill) compromises:			
Ozone Nonattainment			
Transport Regions	330		
Fees	80		
Air Toxics			
Accidental Release	420		
MACT (all categories)	80		
TOTAL		910	
(8) Administration bill cost estimate (January 23):			18,900

*Particularly tentative, because coverage of utility emissions of Mercury is unclear, and because progress requirements interact with other nonattainment provisions.

#See text for significant differences not assigned costs in the January 23 analysis and on which no tentative compromise exists.

THE WHITE HOUSE

WASHINGTON

February 5, 1990

MEMORANDUM FOR ROGER B. PORTER
BOYDEN GRAY
MICHAEL BOSKIN

FROM: NANCY A. MALOLEY NAM

SUBJECT: Definition of a "Major Stationary Source"

As requested, this is a summary of impacts resulting from the Senate bill definition of a major stationary source.

Current law and the Administration's Clean Air bill define a major source subject to non-attainment regulatory requirements as 100 tons or more. The Senate bill would lower the cut-off to any source emitting 25 tons or more.

It Means:

Any 25 ton source in a non-attainment area would be required to add Reasonable Available Control Technology (RACT) to its source. The cost of RACT technology is $2000 per ton removal, up to $5000 or $8000 per ton removal for an additional 3% reduction.

It Means:

All enforcement and permitting requirements for major sources in our bill would now also cover 25 ton sources. A 25 ton source would be required to obtain an operating permit with detailed emissions analyses and compliance schedules, but without sufficient staff to carry out the burdensome requirements. These sources would be subject to civil penalties, calculated on a per day basis, for failure to have a permit.

It Means:

When a non-attainment area is subject to a sanction prohibiting construction or expansion of a major source, that sanction would now apply to 25 ton sources who would be prohibited from constructing or expanding.

It Means:

When a state attempts to achieve a 3% reduction in VOC's, which it must meet annually, a state must look to sources below 25 tons, rather than 100 tons, to achieve the reduction. Clearly, the

Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
05. Memo	From Nancy Maloley to Roger Porter Re: Clean Air Act ~~[two paragraphs redacted~~] (1 pp.)	2/5/90	P/5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Clean Air (2 of 3) (1990) [2]

Open on Expiration of PRA
(Document Follows)
By JP (NLGB) on 5/12/05

Date Closed:	12/7/2004	**OA/ID Number:**	29148-003
FOIA/SYS Case #:	1998-0004-F[1]	**Appeal Case #:**	
Re-review Case #:	2005-0426-S	**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
AR Case #:		**MR Case #:**	
AR Disposition:		**MR Disposition:**	
AR Disposition Date:		**MR Disposition Date:**	

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]
P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
P-3 Release would violate a Federal statute [(a)(3) of the PRA]
P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [a)(5) of the PRA]
P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Removed as a personal record misfile.

Freedom of Information Act - [5 U.S.C. 552(b)]

(b)(1) National security classified information [(b)(1) of the FOIA]
(b)(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
(b)(3) Release would violate a Federal statute [(b)(3) of the FOIA]
(b)(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]
(b)(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]
(b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
(b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
(b)(9) Release would disclose geological or geophysical information

effect will be the expansion of the non-attainment program to virtually every small source in the affected area.

It Means:

The $5000 per ton annual non-attainment fee for major sources will now extend to 25 ton sources.

It Means:

Virtually no air quality benefit for the cost to small business. In the summer of 1987, Lee Thomas, testified before the Senate Environment and Public Works Committee that the imposition of these requirements on 25 ton sources would yield very small benefits nationwide in VOC reductions.

This definition of a major source is a threshold issue for the Senate Committee and it is doubtful they will concede, nor should we. This requirement changes the complexion of the entire non-attainment program.

Were we to agree to any 25 ton compromise at this point, we would:

- Make it virtually impossible for Senators, who are not even part of the negotiations but who oppose this requirement, to prevail.

- The Bush Administration would send a signal that we find it acceptable to impose on small businesses burdensome requirements they cannot afford and to make it even more difficult for states to achieve the annual 3% reduction.

- Although a 25 ton cut-off is likely to emerge from the House, our endorsement of it now would severely compromise any negotiations in that body.

THE WHITE HOUSE

WASHINGTON

January 30, 1990

MEMORANDUM FOR JIM WHITTINGHILL
DEPUTY CHIEF OF STAFF TO SENATOR DOLE

FROM: ROGER B. PORTER
ASSISTANT TO THE PRESIDENT

SUBJECT: Draft Proposal for Clean Air Act Amendments

Thank you for the opportunity to comment on a draft proposal for Clean Air Act amendments to be used as a substitute for S.1630.

We have reviewed the draft proposal and in almost every respect, particularly on non-attainment and air toxics, it conform to the Administration's clean air proposal. We would like to gain a better understanding of the air toxics provisions, particularly bullet 4 on a general human health standard of "unreasonable risk" as in S.1490.

With respect to acid rain, we are working to develop a common set of numbers on the impacts of potential changes, recognizing the need to address clean states issues in a fashion other than the way they are addressed in the Senate bill.

In closing, we thank you for developing a good framework that could be acceptable to a broad coalition of Senators. We would like to work with you and please let us know at your earliest convenience how we may help facilitate this process.

29 Jan. 1990

DRAFT PROPOSAL

SUMMARY

SUBSTITUTE FOR
S. 1630, CLEAN AIR ACT AMENDMENTS OF 1989

(Summary of Major Differences Between Substitute and Environment and Public Works Committee's Reported Bill)

TITLE I: NON-ATTAINMENT: STATIONARY SOURCES
(Changes in Title I of S. 1630)

- Retain Administration's definition of major source/new source review (100 tons). Authorize states to regulate sources with emissions greater than 50 tons in non-attainment areas.
- Permit plant-wide definition of source for New Source Review in non-attainment areas consistent with Supreme Court decision in Chevron USA Inc. v. Natural Resource Defense Counsel.
- Allow "netting" as under Administration bill and current law.
- Retain offset ratios in current law.
- Make Federal implementation plans (FIPs) discretionary with EPA; add Administration provisions for existing court ordered FIPs.
- Boundaries of non-attainment areas designated by EPA on basis of recommendations by States as under Administration bill.
- Establish Northeast Commission to address long-range ozone transport with discretionary authority to impose transport area requirements for critical areas, or statewide, or on a regional basis as in Administration bill. Commission decides whether to require reasonably available control technology; stage II vapor recovery; or I/M programs.

- Consolidate permit fees into Title V (including Administration's ozone non-attainment fee), and authorize States to increase fees in non-attainment areas by up to $10 per ton.

- Remove parking and driving restriction on employees of firms employing over 100 people in 10 largest cities.

- Require 3 percent annual progress as in Administration's bill.

- Require 3 percent per year VOC reduction as in Administration's bill.

- Authorize EPA to establish regulations governing area sources (non-major sources) if it determines that such sources collectively warrant regulation (S. 1490). Authorize a research program on area sources.

- Provide EPA with discretionary authority to promulgate national regulation governing consumer and commercial products based on results of three-year study (S. 1490).

- Adopt Administration's sanctions (construction bans, highway funds, drinkwater hookups, etc.); plants in compliance exempt from the "hammer".

- Conform jurisdiction over OCS to currently planned OCS rules.

TITLE II: NON-ATTAINMENT; MOBILE SOURCES

(Provisions drawn from President's bill, so-called Dingell-Waxman compromise, and Levin/Nickles proposal.)

- Set tough but technologically feasible standard.

- Federal hydrocarbon, carbon monoxide and nitrogen oxides standards for cars and light trucks (50,000 mile) shall be effective in 1994 and modeled after California (1993 standard) and differentiate between test and in-use standards and provide for 3-year phase-in.

- Light truck standards (50,000 mile) shall be effective in 1994 and modeled after California (1993) standards and differentiate between test and in-use standards and provide for 3-year phase-in.

- No mandatory 2nd phase standards (VOCs and NOx).

- On-board refueling cannisters cannot be required until an EPA study determines they are safe, necessary, technologically feasible.

- Authorize fuel neutral alternative fuel program targeted at critical nine non-attainment areas (Hall-Fields as amended to reflect Administration concerns), which recognizes potential of gasohol and reformulated gasoline.
- Authorize national program for use of alternative fuels by fleet vehicles.
- Eliminate carbon dioxide (fuel efficiency) tailpipe standards.
- Require use of oxygenated fuels with 3.1 percent oxygen content in serious carbon monoxide non-attainment areas.

- EPA rulemaking authority to assure necessary vehicle fuels are available as in Administration's bill, including clean diesel fuels. (Does not include "fuel quality" provision of S. 1630.)

TITLE III: AIR TOXICS

(Substitute Title III of S. 1490 as described and modified below.)

- Require MACT regulations on those 50 percent of source categories considered greatest risk. Allow EPA to extend MACT to other categories, as in S. 1490. Staged controls on source categories until acceptable risk achieved, as determined by Administrator.

- Require EPA to promulgate air toxic emission standards that achieve "the maximum degree of reduction in emissions" which shall be no less stringent than most stringent emission level achieved in practice by similar source, as in S. 1490.

- Allow consideration of cost and technical feasibility as well as health and environmental factors when evaluating whether a risk is unreasonable.

- Adopt a general human health standard of "unreasonable risk" for hazardous air pollutants as in S. 1490.

- Conform air toxics to President's proposal with following changes:

  -- Authorize EPA to undertake a study of air toxics risk from area sources. Provide EPA with discretionary authority to regulate area sources of air toxics. Require EPA regulation of 10 most significant area sources.

  -- Establish an EPA Accidental Release Investigation Board to investigate accident releases. Incorporate additional authorities in H.R. 3030 as amended by Rep. Lent.

  -- Authorize EPA to undertake a three-year study of air toxic

emission (including chlorine) from electric utilities. Provide EPA with discretionary authority to regulate air toxics from utilities.

-- Authority for EPA to act in imminent hazard situations.

o Provide credit for early reductions.

TITLE IV: ACID RAIN
(Changes in Title IV of S. 1630)

o Fix "class of 1985" problem for new and existing facilities.

- Fix currently clean States' inability to grow.

- Provide a compliance date extension for clean coal technologies of between three and five years based upon statutory criteria which reflect the following principles:

  -- efficiency in energy consumption.
  -- single or multiple pollutant control.
  -- no derating of boiler
  -- reduction of volumes of by-product wastes.
  -- recognition of different clean coal technology time requirements for repowering, retrofit, and replacement.

- Add clean coal Federal rate incentives and State incentives from President's proposal.

- Provide "full" WEPCO fix for all installations of clean coal technologies.

- Conform NOx reductions to President's proposal.

- Clarify that NOx emission rate limitation for coal-fired boilers cannot require more than low-NOx burners.

- Provide that allowances in EPA 2 percent pool can only be withdrawn by open action.

- Assure that proceeds from auction of allowances are distributed to original owners of allowances.

- Conform compliance deadlines to President's proposal.

- Provide for allocation of allowances for emissions avoided through energy efficiency improvements or use of renewable energy technologies.

- Require imports of electricity meet same standard as domestic sources.

TITLE V: PERMITS
(Changes in Title V of S. 1630)

- Consolidate all permit requirements, except for acid rain permits, as in Title IV of S. 1490 (including Administration's ozone non-attainment fees).

- Impose a fixed annual emission fee of $25 per ton. Authorize States to impose an additional fee of $10 per ton or reasonable, direct and indirect cost, whichever is greater, in non-attainment areas.

- Clarify that State may consolidate permits at individual sites.
- Provide protections for confidential information.

TITLE VI: ENFORCEMENT AND REAUTHORIZATION
(Changes in Title VI of S. 1630)

- Incorporate Justice Department and EPA concerns.

TITLE VII: MISCELLANEOUS PROVISIONS

- None

- end -

ARCO

515 South Flower Street
Los Angeles, California 90071
Telephone 213 486 2533

L. M. Cook
Chairman and
Chief Executive Officer

February 2, 1990

Governor John H. Sununu
Chief of Staff
Executive Office of the President
1600 Pennsylvania Avenue, N.W.
Washington, D.C. 20500

Dear Governor Sununu:

The Senate Clean Air bill, S. 1630, would require the use of 3.1 weight percent oxygen in gasoline in carbon monoxide (CO) nonattainment areas. Under current EPA regulations, ethanol is the only oxygenate that can achieve that level of oxygen so this becomes a mandate for ethanol.

The Administration should continue its support for an oxygenate program that allows all fuels to compete in the marketplace. You should oppose a numerical mandate such as 3.1% and support the language in the original Administration Clean Air bill. As you know, the Administration proposal did not specify the required oxygenate level.

We have several concerns with a 3.1% oxygen requirement.

- Ethanol is "splash blended" with finished gasoline when loaded into delivery trucks. This results in a higher volatility fuel which increases hydrocarbon emissions -- a problem in ozone nonattainment areas (many CO nonattainment areas are also ozone nonattainment areas).

- The use of other oxygenates such as MTBE (methyl tertiary butyl ether) is precluded. Current EPA regulation limits the use of MTBE to 2.7% oxygen.

  We believe that MTBE fuel blended at a refinery at 2.0% oxygen will achieve a similar CO reduction to ethanol "splash blended" at 3.5% oxygen.

- Cost of producing our new reformulated gasoline, EC-1, would increase by about 5¢ per gallon if we had to use ethanol rather than MTBE.

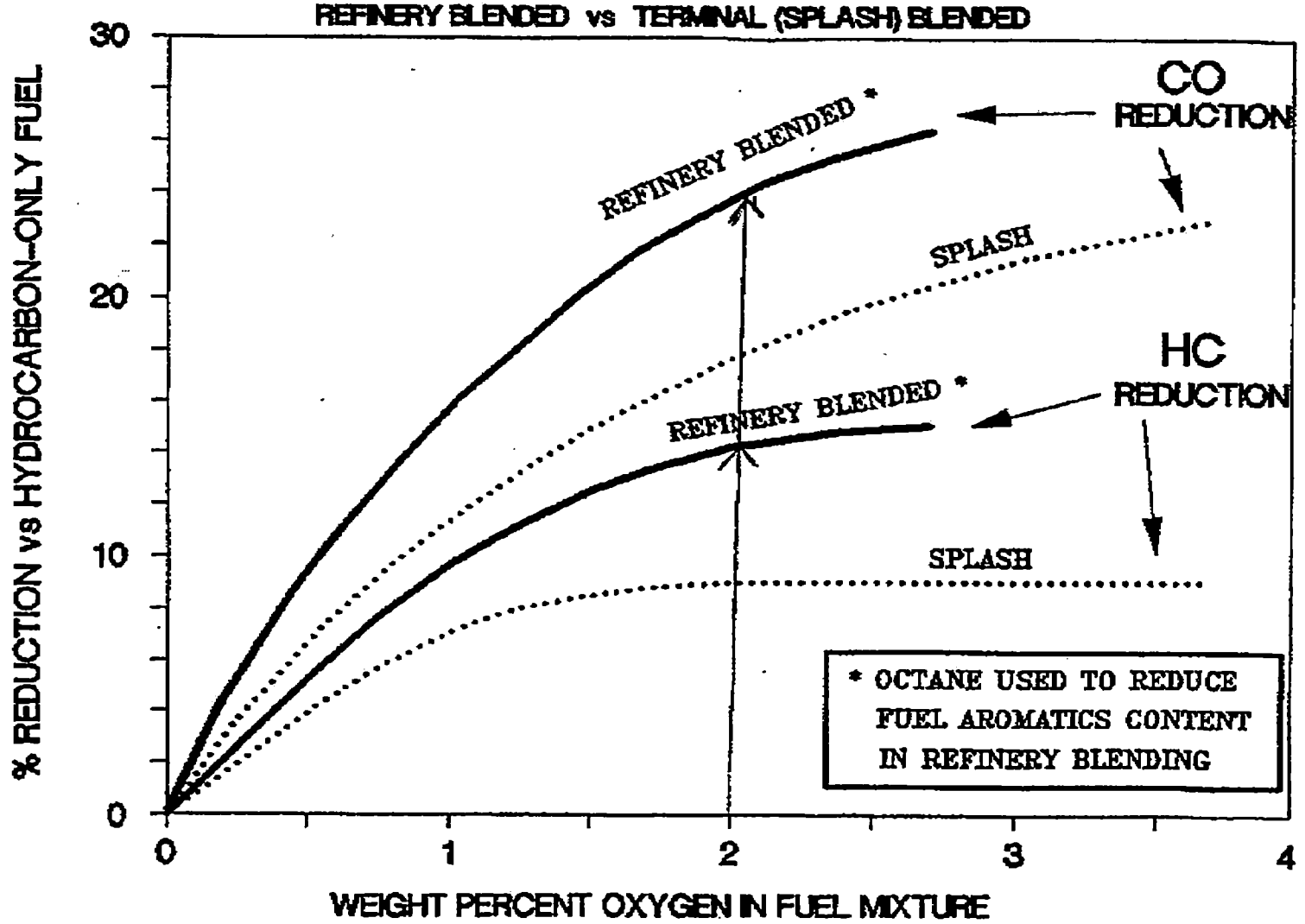
In no event should the requirement to add oxygenates exceed 2.7%.

Sincerely,

L. M. Cook

TAILPIPE EMISSION REDUCTION vs FUEL OXYGEN CONTENT

REFINERY BLENDED vs TERMINAL (SPLASH) BLENDED



cc

STATE OF NORTH CAROLINA
OFFICE OF THE GOVERNOR
RALEIGH 27603-8001

JAMES G. MARTIN
GOVERNOR

January 30, 1990

The Honorable Jesse Helms
403 Dirksen Senate Office Building
Washington, DC 20510

Dear Jesse:

As you know, the Senate has begun the legislative year by considering S 1630, the Clean Air Act Amendments. This issue is of vital concern to North Carolina and is crucial to our continued efforts to preserve and protect our environment. That has been a consistent policy of my administration and a common goal in our partnership with you and the other members of our congressional delegation. We have joined other states in the Alliance for Acid Rain Control to reduce air pollution and ensure equity in costs. The Alliance believes that states that neither use low sulfur coal nor pollution abatement equipment should not be subsidized by states that do.

I have been greatly encouraged by the determination of Congress and the President to act as quickly as possible on the challenges acid rain and air toxics pose, both nationally and globally. Because this issue is so crucial, I have discussed the proposed legislation with my cabinet secretaries whose departments have expertise in the issue. Based on those discussions, I would like to share with you our thoughts on specific aspects of the Senate bill.

Titles I and II of the bill propose measures to attain and maintain ambient air quality standards, dealing with ozone and carbon monoxide, as well as vehicular emissions. North Carolina has four areas -- Charlotte, Raleigh-Durham, Fayetteville and the Greensboro Triad -- where federal ozone standards are not met, and two areas -- Raleigh-Durham and the Greensboro Triad -- which are non-attainment areas for carbon monoxide. Reducing vehicular emissions is crucial to meeting air quality standards in these areas.

In that regard, we support stricter tailpipe standards, improved inspection and maintenance programs, controls on fuel volatility, evaporative emissions and running losses, and reasonable measures to control vehicle use. Mobile sources are responsible for 50% of the nation's ambient ozone problem and 90% of our carbon monoxide problem. To reach the attainment standards for ozone and carbon monoxide, we must either reduce the pollution from these sources, or place further restriction on businesses and industries -- restrictions that could have disastrous economic effects. The list of potentially affected businesses would include both large industries, such as furniture and textile manufacturers, and small businesses, such as bakeries and drycleaners.

We have studied the potential economic aspects of the proposed legislation carefully, because this administration is committed to promoting economic opportunities for the benefit of all our citizens. Through prudent planning, we have found that economic growth and environmental preservation need not be mutually exclusive. That is why we are concerned that this legislation be both practical and resonable.

With that in mind, we think the legislation, as proposed, errs in its attempt to limit the use of automobiles by restricting highway expansion. As written, the bill would prohibit most projects that would increase the capacity of roads in areas with air quality problems. While mass transit and high-occupancy vehicle projects would be exempt from sanctions, other projects, including safety and bridge replacement projects, would be at the mercy of EPA, not DOT, decision-makers. We think this is particularly misguided in light of the fact that air quality improves in most urban areas after highways are widened and improved. Besides, carbon monoxide emissions are worst when engines operate at low efficiency while idling in a traffic jam.

Finally, as regards Titles I and II, North Carolina supports a program where all potential alternative fuels are fairly considered. Specific market forces in specific communities, not federal edict, can and must determine the motor fuels of the future.

Title III of the proposal, the Air Toxics provisions, is of great concern to our more traditional industries. The proposed legislation requires EPA to classify industries and to issue rules based on air emission standards for 200 chemicals. Each plant would have to install expensive technology -- known as maximum achievable control technology (MACT) -- to meet those standards.

All of this should be viewed in light of practical experience, which shows us that the current federal program for regulating toxic emissions does not work. In other areas, EPA's enforcement can be best described as "regulating by memo" on selective, inconsistent, case-by-case bases. The result is that neither industries nor state regulatory agencies know what EPA will demand in any particular case. Because of that, we urge that the bill prohibit EPA enforcement until final regulations have been adopted.

The failure of the EPA air toxics program has led many states, including North Carolina, to develop their own regulations. North Carolina's Division of Environmental Management is phasing in regulations for acceptable levels of 105 chemicals. Industries can achieve these levels through management practices or technology. Under the proposed legislation, however, North Carolina will be penalized because of any success we have in this regard. As written, the bill would permit plants that voluntarily reduce emissions by 90% by December 31, 1992 to be exempt from the MACT requirements. But, if these plants reduce their emissions under state-mandated plans that do not require MACT, they would still be required to adopt MACT standards in addition to the reductions they have already achieved.

You can see that this provision would penalize our industries for their efforts to protect the environment and to promote public health. It would also place some of them in a less competitive position for having taken remedial action under state law. We obviously need an amendment to extend credits for reduction that are achieved before the final EPA rules are adopted.

Title III contains another significant problem. As written, the legislation gives EPA the power to revoke an Air Permit that has been issued by the state. This would severely interfere with an industry's ability to operate and with the state regulatory process. This provision needs to be amended.

Lastly, the Acid Rain section (Title V) has been of particular concern to the utilities and textile industries. I have endorsed the provision calling for reducing emissions of sulfur dioxide by 10 million tons and nitrogen oxide by 2 million tons --a proposal endorsed by the President and embodied in both the Senate and House bills. What concerns us is the "cap," which is based on an individual plant's 1985 emissions level and operating capacity.

Although we strongly support the 10 million ton provision, we advocate an amendment that would provide flexibility under the cap or give leeway in the baseline year. The utility industry in North Carolina is among the cleanest in the nation and should not be penalized for taking the responsible steps it has taken to reduce SO2 emissions long before it was required to by the federal government.

We also oppose any plan that would have North Carolina help pay for reducing emissions in other states. Under such a plan, our ratepayers, who are already helping to pay for the more expensive low-sulfur fuel that has reduced sulfur dioxide here, would have to subsidize other parts of the country that have not taken such prudent steps. The increase power costs that such a plan would impose would also put our textile manufactures at a competitive disadvantage. We urge you to oppose "cost-sharing." Other states don't help pay our costs of reducing sulfur dioxide emissions, we should not pay for theirs. Why should we have to pay them to stop polluting us?

I appreciate your attention to our concerns. While we see opportunities for improvements, we strongly support clean air legislation. This legislation is vitally important to our state's environment and to the public health of our citizens. Clean air legislation can be written so that we achieve these goals while continuing to bring economic opportunities and prosperity to the people of North Carolina.

Sincerely,

Jim Martin

James G. Martin

cc: The Honorable John Sununu
The Honorable James Broyhill
The Honorable William Cobey
The Honorable Thomas Harrelson

Democrats

Yes	Undecided	No
Bensten	Bingaman	Adams
Boren	Breaux	Baucus
Byrd	Conrad	Biden
Ford	DeConcini	Bradley
Heflin	Dixon	Bryan
Hollings	Glenn	Burdick
Johnston	Graham	Cranston
Levin	Kerrey (NE)	Daschle
Metzenbaum	Sanford	Fowler
Nunn	Pryor	Gore
Reigle	Bumpers	Harkin
Robb	Exon	Inouye
Rockefeller		Kennedy
Shelby		Kerry (MA)
		Kohl
		Lautenberg
		Leahy
		Leiberman
		Matsunaga
		Mikulski
		Mitchell
		Moynihan
		Pell
		Reid
		Sarbanes
		Sasser
		Simon
		Wirth
		Dodd

Republicans

Yes	Undecided	No
Armstrong	Boschwitz	Chafee
Bond	D'Amato	Cohen
Burns	Gorton	Durenberger
Coats	Hatfield	Jeffords
Cochran	Humphrey	Wilson
Danforth	Kasten	
Dole	Roth	
Domenici	Rudman	
Garn		
Gramm (TX)		
Grassley		
Hatch		
Heinz		
Helms		
Kassebaum		
Lott		
Lugar		
Mack		
McCain		
McClure		
McConnell		
Murkowski		
Nickles		
Packwood		
Pressler		
Simpson		
Spector		
Stevens		
Symms		
Thurmond		
Wallop		