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OFFICE OF
AIR AND RADIATION

THE CLEAN AIR ACT AMENDMENTS OF 1990

SUMMARY MATERIALS

U.S. EPA
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CLEAN AIR ACT AMENDMENTS OF 1990

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The Clean Air Act Amendments of 1990

In June 1989 President Bush proposed sweeping revisions to the Clean Air Act. Building on Congressional proposals advanced during the 1980s, the President proposed legislation designed to curb three major threats to the nation's environment and to the health of millions of Americans: acid rain, urban air pollution, and toxic air emissions. The proposal also called for establishing a national permits program to make the law more workable, and an improved enforcement program to help ensure better compliance with the Act.

By large votes, both the House of Representatives (401-21) and the Senate (89-11) passed Clean Air bills that contained the major components of the President's proposals. Both bills also added provisions requiring the phaseout of ozone-depleting chemicals, roughly according to the schedule outlined in international negotiations (Revised Montreal Protocol). The Senate and House bills also added specific research and development provisions, as well as detailed programs to address accidental releases of toxic air pollutants.

A joint conference committee met from July to October 1990 to iron out differences in the bills and both Houses overwhelmingly voted out the package recommended by the Conferees. The President received the Bill from Congress on November 14, 1990 and signed it on November 15, 1990.

Several progressive and creative new themes are embodied in the Amendments; themes necessary for effectively achieving the air quality goals and regulatory reform expected from these far-reaching amendments. Specifically the new law:

- o encourages the use of market-based principles and other innovative approaches, like performance-based standards and emission banking and trading;
- o provides a framework from which alternative clean fuels will be used by setting standards in the fleet and California pilot program that can be met by the most cost-effective combination of fuels and technology;
- o promotes the use of clean low sulfur coal and natural gas, as well as innovative technologies to clean high sulfur coal through the acid rain program;
- o reduces enough energy waste and creates enough of a market for clean fuels derived from grain and natural gas to cut dependency on oil imports by one million barrels/day;
- o promotes energy conservation through an acid rain program that gives utilities flexibility to obtain needed emission reductions through programs that encourage customers to conserve energy.

With these themes providing the framework for the Clean Air Act amendments and with our commitment to implement the new law quickly, fairly and efficiently, Americans will get what they asked for: a healthy, productive environment, linked to sustainable

economic growth and sound energy policy.

**Title I: Provisions for Attainment
and Maintenance of National Ambient
Air Quality Standards**

Although the Clean Air Act Of 1977 brought about significant improvements in our Nation's air quality, the urban air pollution problems of ozone (smog), carbon monoxide (CO) and particulate matter (PM-10) persist. Currently, over 100 million Americans live in cities which are out of attainment with the with the public health standards for ozone.

The most widespread and persistent urban pollution problem is ozone. The causes of this and the lesser problem of carbon monoxide (CO) and particulate matter (PM-10) pollution in our urban areas are largely due to the diversity and number of urban air pollution sources. One component of urban smog - hydrocarbons - comes from automobile emissions, petroleum refineries, chemical plants, dry cleaners, gasoline stations, house painting and printing shops. Another key component - nitrogen oxides - comes from the combustion of fuel for transportation, utilities and industries.

While there are other reasons for continued high levels of ozone pollution, such as growth in the number of stationary sources of hydrocarbons and continued growth in automobile travel, perhaps the most telling reason is that the remaining sources of hydrocarbons are also the most difficult to control. These are the small sources - generally those that emit less than 100 tons of hydrocarbons per year. These sources, such as auto body shops and dry cleaners, may individually emit less than 10 tons per year, but collectively emit many hundreds of tons of pollution.

The Clean Air Act Amendments of 1990 create a new, balanced strategy for the Nation to attack the problem of urban smog. Overall, the new law reveals the Congress's high expectations of the states and the Federal government. While it gives states more time to meet the air quality standard - up to 20 years for ozone in Los Angeles -, it also requires states to make constant formidable progress in reducing emissions. It requires the Federal government to reduce emissions from cars, trucks, and buses; from consumer products such as hair spray and window washing compounds; and from ships and barges during loading and unloading of petroleum products. The Federal government must also develop the technical guidance that States need to control stationary sources.

The new law addresses the urban air pollution problems of ozone (smog), carbon monoxide (CO), and particulate matter (PM-10). Specifically, it clarifies how areas are designated and redesignated "attainment." It also allows EPA to define the boundaries of "nonattainment" areas: geographical areas whose air quality does not meet Federal air quality standards designed to protect public health.

The new law also establishes provisions defining when and how the federal government can impose sanctions on areas of the country that have not met certain conditions.

For the pollutant ozone, the new law establishes nonattainment area classifications ranked according to the severity of the areas's air pollution problem. These classifications are marginal, moderate, serious, severe and extreme. EPA assigns each nonattainment area one of these categories, thus triggering varying requirements the area must comply with in

order to meet the ozone standard.

As mentioned, nonattainment areas will have to implement different control measures, depending upon their classification. Marginal areas, for example, are the closest to meeting the standard. They will be required to conduct an inventory of their ozone-causing emissions and institute a permit program. Nonattainment areas with more serious air quality problems must implement various control measures. The worse the air quality, the more controls areas will have to implement.

The new law also establishes similar programs for areas that do not meet the federal health standards for the pollutants carbon monoxide and particulate matter. Areas exceeding the standards for these pollutants will be divided into "moderate" and "serious" classifications. Depending upon the degree to which they exceed the carbon monoxide standard, areas will be required to implement programs introducing oxygenated fuels and/or enhanced emission inspection programs, among other measures. Depending upon their classification, areas exceeding the particulate matter standard will have to implement either reasonably available control measures (RACM) or best available control measures (BACM), among other requirements.

Title II: Provisions Relating to Mobile Sources

While motor vehicles built today emit fewer pollutants (60% to 80% less, depending on the pollutant) than those built in the 1960s, cars and trucks still account for almost half the emissions of the ozone precursors VOCs and NOx, and up to 90% of the CO emissions in urban areas. The principal reason for this problem is the rapid growth in the number of vehicles on the roadways and the total miles driven. This growth has offset a large portion of the emission reductions gained from motor vehicle controls.

In view of the unforeseen growth in automobile emissions in urban areas combined with the serious air pollution problems in many urban areas, the Congress has made significant changes to the motor vehicle provisions on the 1977 Clean Air Act.

The Clean Air Act of 1990 establishes tighter pollution standards for emissions from automobiles and trucks. These standards will reduce tailpipe emissions of hydrocarbons, carbon monoxide, and nitrogen oxides on a phased-in basis beginning in model year 1994. Automobile manufacturers will also be required to reduce vehicle emissions resulting from the evaporation of gasoline during refueling.

Fuel quality will also be controlled. Scheduled reductions in gasoline volatility and sulfur content of diesel fuel, for example, will be required. New programs requiring cleaner (so-called "reformulated" gasoline) will be initiated in 1995 for the nine cities with the worst ozone problems. Other cities can "opt in" to the reformulated gasoline program. Higher levels (2.7%) of alcohol-based oxygenated fuels will be produced and sold in 41 areas during the winter months that exceed the federal standard for carbon monoxide.

The new law also establishes a clean fuel car pilot program in California, requiring the phase-in of tighter emission limits for 150,000 vehicles in model year 1996 and 300,000 by the model year 1999. These standards can be met with any combination of vehicle technology and cleaner fuels. The standards become even stricter in 2001. Other states

can "opt in" to this program, though only through incentives, not sales or production mandates.

Further, twenty-six of the dirtiest areas of the country will have to adopt a program limiting emissions from centrally-fueled fleets of 10 or more vehicles beginning as early as 1998.

Title III: Air Toxics

Toxic air pollutants are those pollutants which are hazardous to human health or the environment but are not specifically covered under another portion of the Clean Air Act. These pollutants are typically carcinogens, mutagens, and reproductive toxins. The Clean Air Act Amendments of 1977 failed to result in substantial reductions of the emissions of these very threatening substances. In fact, over the history of the air toxics program only seven pollutants have been regulated.

We know that the toxic air pollution problem is widespread. Information generated from The Superfund "Right to Know" rule (SARA Section 313) indicates that more than 2.7 billion pounds of toxic air pollutants are emitted annually in the United States. EPA studies indicate that exposure to such quantities of air toxics may result in 1000 to 3000 cancer deaths each year.

The Clean Air Act of 1990 offers a comprehensive plan for achieving significant reductions in emissions of hazardous air pollutants from major sources. Industry reports in 1987 suggest that an estimated 2.7 billion pounds of toxic air pollutants were emitted into the atmosphere, contributing to approximately 300-1500 cancer fatalities annually. The new law will improve EPA's ability to address this problem effectively and it will dramatically accelerate progress in controlling major toxic air pollutants.,

The new law includes a list of 189 toxic air pollutants of which emissions must be reduced. EPA must publish a list of source categories that emit certain levels of these pollutants within one year after the new law is passed. The list of source categories must include: 1) major sources emitting 10 tons/year of any one, or 25 tons/year of any combination of those pollutants; and, 2) area sources (smaller sources, such as dry cleaners).

EPA then must issue "Maximum Achievable Control Technology" (MACT) standards for each listed source category according to a prescribed schedule. These standards will be based on the best demonstrated control technology or practices within the regulated industry, and EPA must issue the standards for forty source categories within two years of passage of the new law. The remaining source categories will be controlled according to a schedule that ensures all controls will be achieved within 10 years of enactment. Companies that voluntarily reduce emissions according to certain conditions can get a six year extension from meeting the MACT requirements.

Eight years after MACT is installed on a source, EPA must examine the risk levels remaining at the regulated facilities and determine whether additional controls are necessary to reduce unacceptable residual risk.

The new law also establishes a Chemical Safety Board to investigate accidental releases

of extremely hazardous chemicals. Further, the new law requires EPA to issue regulations controlling air emissions from municipal, hospital and other commercial and industrial incinerators.

Title IV: Acid Deposition Control

As many know, acid rain occurs when sulfur dioxide and nitrogen oxide emissions are transformed in the atmosphere and return to the earth in rain, fog or snow. Approximately 20 million tons of SO₂ are emitted annually in the United States, mostly from the burning of fossil fuels by electric utilities. Acid rain damages lakes, harms forests and buildings, contributes to reduced visibility, and is suspected of damaging health.

The new Clean Air Act will result in a permanent 10 million ton reduction in sulfur dioxide (SO₂) emissions from 1980 levels. To achieve this, EPA will allocate allowances in two phases permitting utilities to emit one ton of sulfur dioxide. The first phase, effective January 1, 1995, requires 110 powerplants to reduce their emissions to a level equivalent to the product of an emissions rate of 2.5 lbs of SO₂/mmBtu x an average of their 1985-1987 fuel use. Plants that use certain control technologies to meet their Phase I reduction requirements may receive a two year extension of compliance until 1997. The new law also allows for a special allocation of 200,000 annual allowances per year each of the 5 years of phase I to powerplants in Illinois, Indiana and Ohio.

The second phase, becoming effective January 1, 2000, will require approximately 2000 utilities to reduce their emissions to a level equivalent to the product of an emissions rate of 1.2 lbs of SO₂/mm Btu x the average of their 1985-1987 fuel use. In both phases, affected sources will be required to install systems that continuously monitor emissions in order to track progress and assure compliance.

The new law allows utilities to trade allowances within their systems and/or buy or sell allowances to and from other affected sources. Each source must have sufficient allowances to cover its annual emissions. If not, the source is subject to a \$2,000 /ton excess emissions fee and a requirement to offset the excess emissions in the following year.

Nationwide, plants that emit SO₂ at a rate below 1.2 lbs/mmBtu will be able to increase emissions by 20% between a baseline year and 2000. Bonus allowances will be distributed to accommodate growth by units in states with a statewide average below 0.8 lbs/mmBtu. Plants experiencing increases in their utilization in the last five years also receive bonus allowances. 50,000 bonus allowances per year are allocated to plants in 10 midwestern states that make reductions in Phase I. Plants that repower with a qualifying clean coal technology may receive a 4 year extension of the compliance date for Phase II emission limitations.

The new law also includes specific requirements for reducing emissions of nitrogen oxides, based on EPA regulations to be issued not later than mid-1992 for certain boilers and 1997 for all remaining boilers.

Title V: Permits

The new law introduces an operating permits program modelled after a similar

program under the Federal National Pollution Elimination Discharge System (NPDES) law. The purpose of the operating permits program is to ensure compliance with all applicable requirements of the Clean Air Act and to enhance EPA's ability to enforce the Act. Air pollution sources subject to the program must obtain an operating permit, states must develop and implement the program, and EPA must issue permit program regulations, review each state's proposed program, and oversee the state's efforts to implement any approved program. EPA must also develop and implement a federal permit program when a state fails to adopt and implement its own program.

This program--in many ways the most important procedural reform contained in the new law--will greatly strengthen enforcement of the Clean Air Act. It will enhance air quality control in a variety of ways. First, adding such a program updates the Clean Air Act, making it more consistent with other environmental statutes. The Clean Water Act, the Resource Conservation and Recovery Act, and the Federal Insecticide, Fungicide, and Rodenticide Act all require permits. The 1977 Clean Air laws also requires a construction permit for certain pollution sources, and about 35 states have their own laws requiring operating permits.

The new program clarifies and makes more enforceable a source's pollution control requirements. Currently, a source's pollution control obligations may be scattered throughout numerous hard-to-find provisions of state and federal regulations, and in many cases, the source is not required under the applicable State Implementation Plan to submit periodic compliance reports to EPA or the states. The permit program will ensure that all of a source's obligations with respect to its pollutants will be contained in one permit document, and that the source will file periodic reports identifying the extent to which it has complied with those obligations. Both of these requirements will greatly enhance the ability of Federal and state agencies to evaluate its air quality situation.

In addition, the new program will provide a ready vehicle for states to assume administration, subject to federal oversight, of significant parts of the air toxics program and the acid rain program. And, through the permit fee provisions, discussed below, the program will greatly augment a state's resources to administer pollution control programs by requiring sources of pollution to pay their fair share of the costs of a state's air pollution program.

Under the new law, EPA must issue program regulations within one year of enactment. Within three years of enactment, each state must submit to EPA a permit program meeting these regulatory requirements. After receiving the state submittal, EPA has one year to accept or reject the program. EPA must levy sanctions against a state that does not submit or enforce a permit program.

Each permit issued to a facility will be for a fixed term of up to five years. The new law establishes a permit fee whereby the state collects a fee from the permitted facility to cover reasonable direct and indirect costs of the permitting program.

All sources subject to the permit program must submit a complete permit application within 12 months of the effective date of the program. The state permitting authority must determine whether or not to approve an application within 18 months of the date it receives the application.

EPA has 45 days to review each permit and to object to permits that violate the Clean

Air Act. If EPA fails to object to a permit that violates the Act or the implementation plan, any person may petition EPA to object within 60 days following EPA's 45-day review period, and EPA must grant or deny the permit within 60 days. Judicial review of EPA's decision on a citizen's petition can occur in the Federal court of appeals.

Title VI: Stratospheric Ozone and Global Climate Protection

The new law builds on the market-based structure and requirements currently contained in EPA's regulations to phase out the production of substances that deplete the ozone layer. The law requires a complete phase-out of CFCs and halons with interim reductions and some related changes to the existing Montreal Protocol, revised in June 1990.

Under these provisions, EPA must list all regulated substances along with their ozone-depletion potential, atmospheric lifetimes and global warming potentials within 60 days of enactment.

In addition, EPA must ensure that Class I chemicals be phased out on a schedule similar to that specified in the Montreal Protocol -- CFC's, halons, and carbon tetrachloride by 2000; methyl chloroform by 2002 -- but with more stringent interim reductions. Class II chemicals (HCFC's) will be phased out by 2030. Regulations for class I chemicals will be required within 10 months, and Class II chemical regulations will be required by December 31, 1999.

The law also requires EPA to publish a list of safe and unsafe substitutes for Class I and II chemicals and to ban the use of unsafe substitutes.

The law requires nonessential products releasing Class I chemicals to be banned within 2 years of enactment. In 1994 a ban will go into effect for aerosols and non-insulating foams using Class II chemicals, with exemptions for flammability and safety. Regulations for this purpose will be required within one year of enactment, to become effective two years afterwards.

Title VII: Provisions Relating to Enforcement

The Clean Air Act of 1990 contains a broad array of authorities to make the law more readily enforceable, thus bringing it up to date with the other major environmental statutes.

EPA has new authorities to issue administrative penalty orders up to \$200,000, and field citations up to \$5000 for lesser infractions. Civil judicial penalties are enhanced. Criminal penalties for knowing violations are upgraded from misdemeanors to felonies, and new criminal authorities for knowing and negligent endangerment will be established.

In addition, sources must certify their compliance, and EPA has authority to issue administrative subpoenas for compliance data. EPA will also be authorized to issue compliance orders with compliance schedules of up to one year.

The citizen suit provisions have also been revised to allow citizens to seek penalties against violators, with the penalties going to a U.S. Treasury fund for use by EPA for compliance and enforcement activities. The government's right to intervene is clarified and citizen plaintiffs will be required to provide the U.S. with copies of pleadings and draft settlements.

Other Titles

The Clean Air Act Amendments of 1990 continue the federal acid rain research program and contain several new provisions relating to research, development and air monitoring. They also contain provisions to provide additional unemployment benefits through the Job Training Partnership Act to workers laid off as a consequence of compliance with the Clean Air Act. The Act also contains provisions to improve visibility near National Parks and other parts of the country.

CLEAN AIR ACT AMENDMENTS OF 1990

SUMMARY OF KEY TITLES

**U.S. EPA
November 15, 1990**

Title I - Nonattainment

- o Divides cities into six categories for ozone (3 yrs. - marginal, 6 yrs. moderate, 9 yrs serious, 15 - 17 yrs severe, 20 yrs extreme) and 2 categories for Carbon monoxide.**
- o % Reduction: Applies to ozone only. Moderate areas and above must achieve 15% VOC reduction within 6 years of enactment. For serious and above, average of 3% VOC per year thereafter until attainment. Annual VOC and NOx reductions as needed to attain. The 15% and 3% is from an adjusted baseline and all reductions except those from existing FMVCP, gasoline volatility, RACT and I/M fixups are creditable. Possible exemption from % reduction based on technological feasibility, if SIP adopts measures similar to those in next higher category and if all feasible measures are adopted in the first 6 years. NOx substitution possible after 6 years.**
- o Prescribed Measures: Major NOx sources meet same requirements as major VOC sources unless EPA finds no benefit. All ozone nonattainment areas correct existing RACT rules and I/M programs. Moderate areas add basic I/M, Stage II and RACT on new and existing CTG and 100 ton non-CTG sources, and make an attainment demonstration. Serious areas add enhanced I/M, RACT on 50 ton non-CTG sources, a fleet vehicle program in areas of 250,000 and up, TCMs needed to offset vehicle growth, special rules for source modifications, and photochemical modeling attainment demonstration. Severe areas add RACT for 25 ton VOC non-CTG sources and provisions requiring adoption of TCMs, if necessary to meet progress requirements and employer trip reduction provisions. Extreme areas add RACT on 10 ton sources, eliminate feasibility exemption from 15% and 3%, add NOx reductions from clean fuels or advanced technology, have peak hour traffic controls; can get SIP approved based on anticipated new technology.**
- o Federal Measures: EPA issues 11 new CTGs plus CTGs for aerospace coatings, shipbuilding and repair; marine vessels rule and consumer products rules. Requires an ACT for 25 ton NOx and VOC sources.**
- o Sanctions: Grace period of 18 months to cure planning failure. Then must apply 1 of 2 sanctions (modified highway ban or 2:1 offset). Air grants are available. There are Existing construction bans remain, but no new ones.**
- o Federal Implementation Plans (FIPs): Within 2 years of state failure to develop an adequate SIP, mandatory attainment FIPs required.**
- o Transport: Sets up 11-state NE transport commission. Requires transport states to adopt RACT for existing and new CTGs, RACT on major (50-ton) non-CTG sources, enhanced I/M in MSAs above 100,000 and Stage II or equivalent. No opt-out of VOC measures. Major NOx sources meet same requirements as major VOC sources unless EPA finds no benefit.**
- o CO and PM-10: Wintertime oxygenated fuels in all CO areas >9.4 ppm. Areas >12.7 ppm add VMT forecast, enhanced I/M and demonstrate attainment. Serious CO areas add TCMs as in severe ozone areas. PM-10 areas initially designated nonattainment must attain by 12/94 (possible extension to 2001). Moderate areas adopt RACM; serious areas add BACM. Serious CO and PM-10 areas adopt measures to achieve 5% reduction per year effective upon failure to attain.**

Title II - Mobile Sources

- o **Tailpipe Standards:** Cars and light trucks: Tier I is 0.25 NMHC, 3.4 CO and 0.4 NOx. Possible Tier II is 0.125 NMHC, 1.7 CO and 0.2 NOx. Tier I phased in 1994-1996. Effectiveness of Tier II in 2004 depends on EPA study of need, feasibility, and cost-effectiveness. Useful life extended to 100,000 miles for most emission standards.
- o **Cold Temperature CO:** Phase-in beginning in 1994 of 10 gpm at 20 degrees F for cars. A 3.4 gpm standard takes effect in 2002 if 6 or more cities are in CO nonattainment in mid-1997.
- o **Clean Fuels:** In 1998 all centrally-fueled fleets in 26 areas must buy 30% of the new vehicles that meet standards of 0.075 gpm VOC and 0.2 NOx; no toxic standards. If such vehicles are not being offered for sale in California the program is delayed possibly until 2001. Purchase requirements increase to 70% in 3rd year.

In 1996, 150,000 clean fuel cars are required to be sold in California; increasing to 300,000 per year by 1999. These cars must meet a standard of 0.125 gpm VOC. Phase 2 begins in 2001 with cars meeting fleet-type standards. Other cities can opt-in to program.
- o **Reformulated Gasoline:** Beginning in 1995 reformulated gasoline is required in the 9 worst ozone areas; minimum oxygen content (2.0%), benzene (1.0%), aromatics (25%), VOCs and toxics reductions (15%, up to 20-25% in 2000). Cities can opt-in.
- o **Oxyfuels:** Beginning in 1992, gas in 41 CO areas must have 2.7% oxygen level in winter months.
- o **Urban Buses:** Delays diesel particulate standard from 1991 to 1993. Beginning in 1994 all buses must meet a PM standard of 0.05 g/hphr (if not feasible EPA will set at 0.07). Based on performance EPA may implement a low polluting bus program in larger cities.
- o **Refueling:** After consultation with DOT on safety issues, EPA required to promulgate onboard controls. Stage II requirements vary by classification.
- o **Volatility:** 9 psi in most of the country beginning 1992; EPA can set lower levels in warmer areas, but cannot require any standard below 9 psi in attainment areas.
- o **Desulfurization:** Diesel fuel highway use limited to 0.05% sulfur by weight.
- o **Air Toxics:** Based on a study of mobile source-related toxics, EPA will regulate, at a minimum, emissions of benzene and formaldehyde.
- o **Non-road Engines:** Based on a study, EPA may regulate any category of non-road engines that contribute to urban air pollution. At a minimum, EPA must control locomotive emissions.
- o **Lead in Gasoline:** As of January 1, 1996, lead banned from use in motor vehicle fuel.

Title III - Air Toxics

- o **List of Pollutants and Source Categories:** Law lists 189 hazardous air pollutants. One year after enactment EPA lists source categories (industries) which emit one or more of the 189 pollutants. In 2 years, EPA must publish a schedule for regulation of the listed source categories.
- o **Maximum Achievable Control Technology (MACT):** MACT regulations are emission standards based on the best demonstrated control technology and practices in the regulated industry. MACT for existing sources must be as stringent as the average control efficiency or the best controlled 12% of similar sources excluding sources which have achieved the LAER within 18 months prior to proposal or 30 months prior to promulgation. MACT for new sources must be as stringent as the best controlled similar source. For all listed major point sources, EPA must promulgate MACT standards - 40 source categories plus coke ovens within 2 years and 25% of the remainder of the list within 4 years. An additional 25% in 7 years and the final 50% in 10 years.
- o **Residual Risk:** Eight years after MACT standards are established (except for those established 2 years after enactment), standards to protect against the residual health and environmental risks remaining must be promulgated, if necessary. The standards would be triggered if more than one source in a category exceeds a maximum individual risk of cancer of 1 in 1 million. These residual risk regulations would be based on current CAA language that specifies that standards must achieve an "ample margin of safety".
- o **Accidental Releases:** Standards to prevent against accidental release of toxic chemicals are required. EPA must establish a list of at least 100 chemicals and threshold quantities. All facilities with these chemicals on site in excess of the threshold quantities would be subject to the regulations which would include hazard assessments and risk management plans. An independent chemical safety board is established to investigate major accidents, conduct research, and promulgate regulations for accidental release reporting.
- o **Other Issues:** A study of area source emissions and a strategy to reduce the cancer incidence from these emissions by 75% is required. Regulation of source categories accounting for 90% of the emissions of the 30 most hazardous area source pollutants. Coke ovens can receive an extension of the residual risk standards until 2020 in exchange for compliance with stringent emission standards. Air toxics regulations of utilities will be based on the results of toxic emissions studies. A study of deposition to the Great Lakes, Lake Champlain, Chesapeake Bay and coastal waters will determine whether additional regulation is needed. Regulations are required for all types of municipal waste combustors and an exclusion for facilities which burn 30% or less municipal waste.

Title IV - Acid Rain

- o **SO2 Reduction:** A 10 million ton reduction from 1980 levels, primarily from utility sources. Caps annual utility SO2 emissions at approximately 8.9 million tons by 2000.
- o **Allowances:** SO2 reductions are met through an innovative market-based system. Affected sources are allocated allowances based on required emission reductions and past energy use. An allowance is worth one ton of SO2 and it is fully marketable. Sources must hold allowances equal to their level of emissions or face a \$2000/excess ton penalty and a requirement to offset excess tons in future years. EPA will also hold special sales and auctions of allowances.
- o **Phase I:** SO2 emission reductions are achieved in two phases. Phase I allowances are allocated to large units of 100 MW or greater that emit more than 2.5 lb/mmBtu in an amount equal to 2.5 lb/mmBtu x their 1985-87 energy usage (baseline). Phase I must be met by 1995 but units that install certain control technologies may postpone compliance until 1997, and may be eligible for bonus allowances. Units in Illinois, Indiana or Ohio are allotted a pro rata share of an additional 200,000 allowances annually during Phase I.
- o **Phase II:** Phase II begins in 2000. All utility units greater than 25 MW that emit at a rate above 1.2 lbs/MMBtu will be allocated allowances at that rate x their baseline fuel consumption. Cleaner plants generally will be provided with 20% more allowances than would have been received based on their baseline consumption. 50,000 bonus allowances are allocated to plants in 10 midwestern states that make reductions in Phase I.
- o **NOx:** Utility NOx reductions will help to achieve a 2 million ton reduction from 1980 levels. Reductions will be accomplished through required EPA performance standards for certain existing boilers in Phase I, and others in Phase II. EPA will develop a revised NOx NSPS for utility boilers.
- o **Repowering:** Units repowering with qualifying Clean Coal Technologies receive a 4 year extension for Phase II compliance. Such units may be exempt from New Source Review requirements and New Source Performance Standards.
- o **Energy Conservation & Renewable Energy:** These projects may be allocated a portion of up to 300,000 incentive allowances.
- o **Clean Coal Technologies (CCT):** Certain CCT demonstration projects may be exempt from NSPS, NSR, and Title I nonattainment requirements.
- o **Monitoring:** Requires continuous emission monitors or an equivalent for SO2 and NOx and also requires opacity and flow monitors.

Title V - Operating Permits

- o Within 3 years of enactment, States must develop operating permit programs. EPA reviews for approval based on regulatory guidelines EPA issues within one year of enactment.**
- o Permits will apply to major sources covered under Title I, as well as sources covered by other titles of the Act.**
- o All sources subject to the program must submit permit applications to the state within 1 year of the effective date (i.e., date of EPA approval) of the state program. The state must establish a schedule for acting on initial permit applications which assures that at least a third of these submitted applications will be acted upon annually for 3 years.**
- o The state must issue permits for a term of up to five years. Permits must include all Clean Air Act requirements applicable to the source. They must also include a schedule of compliance and applicable monitoring and reporting requirements.**
- o Sources must pay permit fees to cover the costs of the permitting program.**
- o EPA must veto a permit if it does not comply with any applicable Clean Air Act requirements.**
- o The public may sue to compel EPA to perform nondiscretionary duty if EPA fails to veto a permit that does not comply with the Act. Such cases are reviewable in the Federal Court of Appeals.**
- o Once issued, the permit replaces the otherwise applicable requirements specifically identified in the permit, but EPA may require that the permit be reopened for cause. A permit with a term of 3 or more years must be reopened if new requirements applicable to the source are promulgated.**
- o EPA may impose sanctions if a state fails to resubmit an approvable permit program after EPA has determined the initial submittal is deficient.**

Title VI - Stratospheric Ozone & Global Climate Protection

- o **Listing:** EPA must list specified ozone depleting substances with their ozone-depletion potential, chlorine/bromine loadings, atmospheric lifetimes and global warming potentials within 60 days after enactment. EPA to add to list at least every 3 years substances meeting specified criteria.
 - o **Phase-out:** Phase-out dates are similar to Montreal Protocol for Class I (2000 for CFC, halon and carbon tetrachloride; 2002 for methyl chloroform), but with more stringent interim reductions. Class II (HCFC) substances phased out by 2030. Regulations for Class I required within 10 months, Class II by 12/31/99.
 - o **Exchange:** Requires a net environmental benefit from trades of allowances to produce controlled substances. Regulations required within 10 months after enactment.
 - o **Recycling/Use Limits:** Restricts use and emissions to LAER, requires maximum recycling and safe disposal for CFC refrigerants within 2 years, all other class I and II substances within 4 years. Illegal to vent class I or II refrigerants after 7/1/92. Prohibition on venting any environmentally harmful substitute refrigerant after 5 years.
 - o **Mobile Air Conditioners:** Mandatory recycling after 1/1/92. Certification of equipment and personnel. Ban on small containers (except certified personnel).
 - o **Nonessential Products:** Bans nonessential products that result in releases of class I substances within 2 years. Beginning 1994, ban use of class II substances in aerosols and non-insulating foams, with exemptions for flammability and safety. Regulation 1 year after enactment, effective after 2 years.
 - o **Labeling:** Mandatory warning labels on all containers of products made with and containing class I or class II substances (depending, in some cases, on availability of safe alternatives). Regulations required within 18 months after enactment, effective 30 months after. In case of labeling, requirements applicable to containers of Class I and II substances and to products containing Class I substances. All products must be labeled by 2015.
 - o **Safe Alternatives:** Requires prior notice of sale of new and existing chemicals for significant new use as substitute. EPA to publish list of safe and unsafe uses of substitutes for Class I and II as identified. Gives authority to restrict the use of unsafe substitutes. Rules required within 2 years after enactment.
 - o **Procurement:** Requires all Federal Agencies to amend their procurement regulations to maximize the use of safe alternatives for Class I and II substances. Regulations required within 18 months after enactment, effective 30 months after.
 - o **Methane:** EPA to publish 5 reports to Congress within 2 years, and 1 follow-up report within 4 years.
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Title VII - Enforcement

- o Enhances Enforceability:** Makes the CAA more easily enforceable and consistent with recent environmental statutes, like the Clean Water Act and the Resource Conservation and Recovery Act. A broad array of new enforcement authorities, from "traffic tickets" to criminal felonies, are provided to better match the penalty to the severity of the violation. However, some changes also limit enforcement in new ways.
- o Violations:** Criminal violations are upgraded from misdemeanors to felonies, consistent with other environmental statutes.
- o New Criminal Sanctions:** Will be added for knowing endangerment and negligent endangerment in connection with air toxics.
- o Penalties:** EPA may issue administrative penalty orders up to \$200,000 and field citations for minor violations up to \$5,000, rather than taking every violation to court. EPA may issue administrative subpoenas. Sources may challenge assessments in administrative hearings and District Court.
- o Scope:** Duration and scope of emergency orders are expanded. Authority to issue administrative compliance orders to sources is expanded to authorize schedules of up to 1 year.
- o Restrictions:** Definitions of the terms "operator" and "person", which immunize many potential violators from enforcement, are restricted.
- o Citizen suit:** Provisions are revised to allow courts to assess penalties as well as enjoin violations. The money will go to a special U.S. Treasury fund. Money may be designated for air compliance activities, or mitigation projects. District Courts are given jurisdiction over suits against EPA for unreasonable delay.
- o Oversight:** Effective federal oversight of citizen suits is provided through additional notification requirements.
- o Punishment:** The ability to prove and adequately punish ongoing and recurring violations is strengthened because the burden of proof is on the defendant for the purpose of determining penalty liability once the government shows that a violation has occurred. Once a violation has been proven, any credible evidence is admissible to show that the violation continued.
- o Contractors:** Listing authority (by which violators are barred from receiving government contracts, grants and loans) is revised so that all criminal convictions result in debarment. EPA is not explicitly allowed to use contractors for inspection purposes.

Title VIII - Miscellaneous Provisions

- o** Outer Continental Shelf (OCS): Program to control air pollution from sources on the Outer Continental Shelf. Sources within 25 miles of shore required to meet the same standards as onshore areas. Exemptions possible if the Administrator finds that compliance is technologically infeasible or will cause an unreasonable threat to health and safety. States adjacent to OCS sources may implement and enforce requirements if approved by the Administrator. Within 3 years of enactment the Secretary of the Interior will conduct a study of areas adjacent to Texas, Louisiana, Mississippi and Alabama, examining the impacts of emissions from Outer Continental Shelf activities.
- o** Establishment of program to monitor and improve air quality in regions along the border between the United States and Mexico: Program effective through July 1, 1995. Monitoring conducted to determine the sources of pollutants for which NAAQS have been established. The information will be used to aid in the process of attainment for sources out of compliance with the NAAQS. The Administrator can negotiate with Mexican representatives to reduce the level of airborne pollutants and achieve NAAQS in regions along the U.S./Mexico border. Each year the Administrator will give an annual report to Congress concerning the status of the program and the progress of reaching attainment in border regions.
- o** Visibility: Each year, for 5 years, \$ 8 million will be allocated to conduct studies which will identify and evaluate sources and source regions of both visibility impairment and Class I regions. Research includes expansion of monitoring in Class I areas, assessment of sources affecting visibility, adaptation of regional air quality models and studies of atmospheric chemistry and physics pertaining to visibility. 24 months after enactment, Administrator will conduct an assessment of how the Clean Air Act Amendments are affecting Class I areas. The Administrator can establish Visibility Transport Regions if two or more affected states petition the Administrator that the interstate transport of air pollutants is negatively affecting visibility in Class I areas. In conjunction with the transport region, a commission shall be designated. The Commission will evaluate data, studies and information pertaining to adverse impacts on visibility. Based on the evaluation, action may be taken to remedy any negative impacts. The Administrator shall establish a Grand Canyon Visibility Transport Commission within 12 months of enactment.
- o** International Border Areas: Provides that an implementation plan or revision shall be approved by the Administrator if it meets all of the Act's requirements except attainment of NAAQS because of emissions emanating from outside the United States. States that can prove that they cannot meet ozone, CO or PM-10 attainment levels by the applicable deadline because of emissions from outside of the U.S. shall not be penalized.
- o** Other Key Provisions: - Grants For Support of Air Pollution Planning and Control Programs, Section 808 - Renewable energy and energy Conservation incentives and Section 817 - The Role of Secondary Standards.

Title IX - Clean Air Research

- o Monitoring and modeling:** Research calls for improved methods and techniques for measuring individual air pollutants and complex mixtures, and for addressing urban and regional ozone. Maintenance of a national monitoring network to assess the status and trends of air emissions, deposition, air quality, surface water quality, forest conditions and visibility is required.
- o Health effects:** EPA will study the short and long-term health effects associated with exposure to air pollutants and develop methods to assess risks from these pollutants. An interagency task force, led by EPA, will coordinate the research. EPA is required to prepare environmental health assessments for all listed hazardous air pollutants.
- o Ecosystem:** Studies for improving our understanding of ecosystem effects from individual and multiple air pollutants, including the effects of air pollution on water quality, forests, biological diversity, and other terrestrial and aquatic systems exposed to air pollutants.
- o Accidental Releases:** Research calls for improvements in predictive models and response technology for accidental releases of dense gases. EPA will oversee the research using the Department of Energy's Liquefied Gaseous Fuels Spill Test Facility for the experimental work.
- o Pollution Prevention and Emissions Control:** Research is required to develop technologies and strategies for air pollution prevention from stationary and area sources.
- o Acid Precipitation Research Program:** Continuation of research by an intra-agency task force. It will review the status of research activities conducted to date and submit to Congress a revised plan that identifies key research gaps and establishes a program to address current and future research priorities. EPA is required to sponsor specialized acid deposition studies and to have the results of its research efforts included in Task Force reports.
- o Clean alternative fuels:** Research directs EPA to identify, characterize and predict air emissions and other potential environmental effects associated with alternative fuels. EPA is required to determine the risks and benefits to human health and the environment relative to those from gasoline.
- o Other Studies:** Coordinate research with appropriate Federal agencies. Study of control technologies used in other industrialized countries. A six million dollar research effort on the effects of acid deposition on waters in the Adirondack region.

Title XI - Clean Air Employment Transition Assistance

- o **Job Partnership Training Act (JTPA):** Amends Title III of the Job Partnership Training Act. An additional \$50 million per year for 1991-1995 allocated to JTPA Title III to assist dislocated workers, the majority of who will likely be high sulfur coal miners, dislocated because of implementation of the acid rain title.
- o **Funding:** Ninety-five percent of the funding will go to the worker assistance programs and the remaining five percent will be used to administer the title. The Department of Labor will administer the program. Regulations must be developed within 180 days of the bill's passage.
- o **Benefits:** In addition to the benefits currently available to dislocated workers through JTPA Title III, people will be able to receive job search allowances, relocation assistance, needs related payments and extended monetary assistance. Extended monetary assistance will be available to dislocated workers who have exhausted their unemployment insurance benefits as long as their are in qualified training or educational programs.
- o **Difference from Current Program:** Currently, JTPA Title III can provide the benefits mentioned above. But, because of constraints in the way the program is operated, these benefits are not provided frequently. Title XI ensures that dislocated workers, if eligible, receive benefits.
 - The intent for providing further monetary assistance, in the form of needs related payments, is so that workers, who are adjusting to a career change and are enrolled in training or educational programs that exceed the period of time for which they receive Unemployment Insurance (UI), are able to complete training or education with further monetary assistance.
- o **Eligibility:** Payments will be awarded to a dislocated worker, if he is enrolled in training or an educational program, and either he or a member of his family has an income level below the state poverty income level. Payments will be equivalent to either the amount a person was receiving from their UI, or enough so as to bring the person up to the poverty level.

CLEAN AIR ACT AMENDMENTS OF 1990

GLOSSARY OF TERMS

**U.S. EPA
November 15, 1990**



Acid Deposition ("Acid Rain"). -- A complex chemical and atmospheric phenomenon that occurs when emissions of sulfur and nitrogen compounds and other substances are transformed by chemical processes in the atmosphere, often far from the original sources, and then deposited on earth in either a wet or dry form. The wet forms, popularly called "acid rain," can fall as rain, snow, or fog. The dry forms are acidic gases or particulates.

Air Toxics. -- Any air pollutant for which a national ambient air quality standard (NAAQS) does not exist (i.e. excluding ozone, carbon monoxide, PM-10, sulfur dioxide, nitrogen dioxide) that may reasonably be anticipated to cause cancer, developmental effects, reproductive dysfunctions, neurological disorders, heritable gene mutations or other serious or irreversible chronic or acute health effects in humans.

Aromatics. -- A type of hydrocarbon, such as benzene or toluene, added to gasoline in order to increase octane. Some aromatics are toxic.

Attainment Area. -- An area considered to have air quality as good as or better than the National Ambient Air Quality Standards as defined in the Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others.

Best Available Control Measure (BACM). -- A term used in the House bill referring to the "best" measures (according to EPA guidance) for controlling small or dispersed sources of particulate matter, such as roadway dust, woodstoves, and open burning.

Carbon Monoxide (CO). -- A colorless, odorless gas which is toxic because of its tendency to reduce the oxygen-carrying capacity of the blood.

Clean Coal Technology. -- Any technology not in widespread use as of the date of enactment of the Clean Air Act amendments which will achieve significant reductions in pollutants associated with the burning of coal.

Clean Fuels. -- Blends and/or substitutes for gasoline fuels. These include compressed natural gas, methanol, ethanol, and others.

Coke Oven. -- An industrial process which converts coal into coke, which is one of the basic materials used in blast furnaces for the conversion of iron ore into iron.

Cold Temperature CO. -- A standard for automobile emissions of carbon monoxide (CO) to be met at a low temperature (i.e., 20 degrees F.). Conventional catalytic converters are less efficient upon start-up at low temperatures.

Control Techniques Guideline (CTG). -- Guidance documents issued by EPA which define reasonably available control technology (RACT) to be applied to existing facilities that emit certain threshold quantities of air pollutants; they contain information both on the economic and technological feasibility of available techniques.

CFCs (Chlorofluorocarbons). -- A family of inert, nontoxic, and easily-liquefied chemicals used in refrigeration, air conditioning, packaging, insulation, or as solvents or aerosol propellants. Because CFCs are not destroyed in the lower atmosphere they drift into the upper atmosphere where the chlorine is released and destroys ozone.

CFC-12. -- A chlorofluorocarbon with a trademark name of Freon, commonly used in refrigeration and automobile air conditioning.

Emission Control Diagnostics. -- Computerized devices placed on vehicles to detect malfunction of emissions controls and notify the owner of the need for repair.

Enhanced Inspection & Maintenance (Enhanced I&M). -- An improved automobile inspection and maintenance program that includes, as a minimum, increases in coverage of vehicle types and model years, tighter stringency of inspections and improved management practices to ensure more effectiveness. This may also include annual, computerized, or centralized inspections; under-the-hood inspections to detect tampering with pollution control equipment; and increased repair waiver cost. The purpose of Enhanced I&M is to reduce automobile emissions by assuring that cars are running properly.

Federal Implementation Plan (FIP). -- Under current law, a federally implemented plan to achieve attainment of an air quality standard, used when a State is unable to develop an adequate plan. Under the Senate bill, a plan containing control measures developed and promulgated by EPA in order to fill gaps in a State Implementation Plan (SIP).

Gasoline Volatility. -- The property of gasoline whereby it evaporates into a vapor. Gasoline volatility is measured in pounds per square inch (psi), with a higher number reflecting more gasoline evaporation. Gasoline vapor is a volatile organic compound (VOC).

Halons. -- A family of compounds containing bromine used in fighting fires, whose breakdown in the atmosphere depletes stratospheric ozone.

HCFCs. -- Chlorofluorocarbons that have been chemically altered by the addition of hydrogen, and which are significantly less damaging to stratospheric ozone than other CFCs.

Inspection & Maintenance (I&M). -- A program providing for periodic inspections of motor vehicles to ensure that emissions of specified pollutants are not exceeding established limitations.

Low NOx Burners. -- One of several combustion technologies used to reduce emissions of NOx.

Maximum Achievable Control Technology (MACT). -- Emissions limitations based on the best demonstrated control technology or practices in similar sources to be applied to major sources emitting one or more of the listed toxic pollutants.

Montreal Protocol. -- An international environmental agreement to control chemicals that deplete the ozone layer. The protocol, which was renegotiated in June 1990, calls for a phase-out of CFCs, halons, and carbon tetrachloride by the year 2000, a phase-out of chloroform by 2005, and provides financial assistance to help developing countries make the transition from ozone-depleting substances.

NOx (Nitrogen Oxides). -- Chemical compounds containing nitrogen and oxygen; reacts with volatile organic compounds, in the presence of heat and sunlight to form ozone. It is also a major precursor to acid rain. Nationwide, approximately 45 percent of NOx emissions come from mobile sources, 35 percent from electric utilities, and 15 percent from industrial fuel combustion.

Onboard Controls. -- Devices placed on vehicles to capture gasoline vapor during refueling and then route the vapors to the engine when the vehicle is started so that they can be efficiently burned.

Oxygenated Fuels. -- Gasoline which has been blended with alcohols or ethers that contain oxygen in order to reduce carbon monoxide and other emissions.

Ozone. -- A compound consisting of three oxygen atoms, that is the primary constituent of smog. It is formed through chemical reactions in the atmosphere involving volatile organic compounds, nitrogen oxides, and sunlight. Ozone can initiate damage to the lungs as well as damage to trees, crops, and materials. There is a natural layer of ozone in the upper atmosphere which shields the earth from harmful ultraviolet radiation.

PM-10. -- A new standard for measuring the amount of solid or liquid matter suspended in the atmosphere ("particulate matter"). Refers to the amount of particulate matter over 10 micrometers in diameter. The smaller PM-10 particles penetrate to the deeper portions of the lung, affecting sensitive population groups such as children and people with respiratory diseases.

Reasonably Available Control Measures (RACM). -- A broadly defined term referring to technologies and other measures that can be used to control pollution; includes Reasonably Available Control Technology and other measures. In the case of PM-10, it refers to approaches for controlling small or dispersed source categories such as road dust, woodstoves, and open burning.

Reasonably Available Control Technology (RACT). -- An emission limitation on existing sources in non-attainment areas, defined by EPA in a Control Techniques Guideline (CTG) and adopted and implemented by States.

Reformulated Gasoline. -- Gasoline with a different composition from conventional gasoline (e.g., lower aromatics content) and that results in the production of lower levels of air pollutants.

Repowering. -- The replacement of an existing coal-fired boiler with one or more clean coal technologies, in order to achieve significantly greater emission reduction relative to the performance of technology in widespread use as of the enactment of the Clean Air Act amendments.

Residual Risk. -- The quantity of health risk remaining after application of the MACT (Maximum Achievable Control Technology).

Sanctions. -- Actions taken against a State or local government by the Federal government for failure to plan or to implement a SIP. Examples include withholding of highway funds and a ban on construction of new sources.

Stage II Controls. -- Systems placed on service station gasoline pumps to control and capture gasoline vapors during automobile refueling.

State Implementation Plan (SIP). -- Documents prepared by states, and submitted to EPA for approval, which identifies actions and programs to be undertaken by the State and its subdivisions to implement their responsibilities under the Clean Air Act.

Sulfur Dioxide (SO₂). -- A heavy, pungent, colorless air pollutant formed primarily by the combustion of fossil fuels. It is a respiratory irritant, especially for asthmatics and is the major precursor to the formation of acid rain

Transportation Control Measures (TCMs). -- Steps taken by a locality to adjust traffic patterns (e.g., bus lanes, right turn on red) or reduce vehicle use (ridesharing, high-occupancy vehicle lanes) to reduce vehicular emissions of air pollutants.

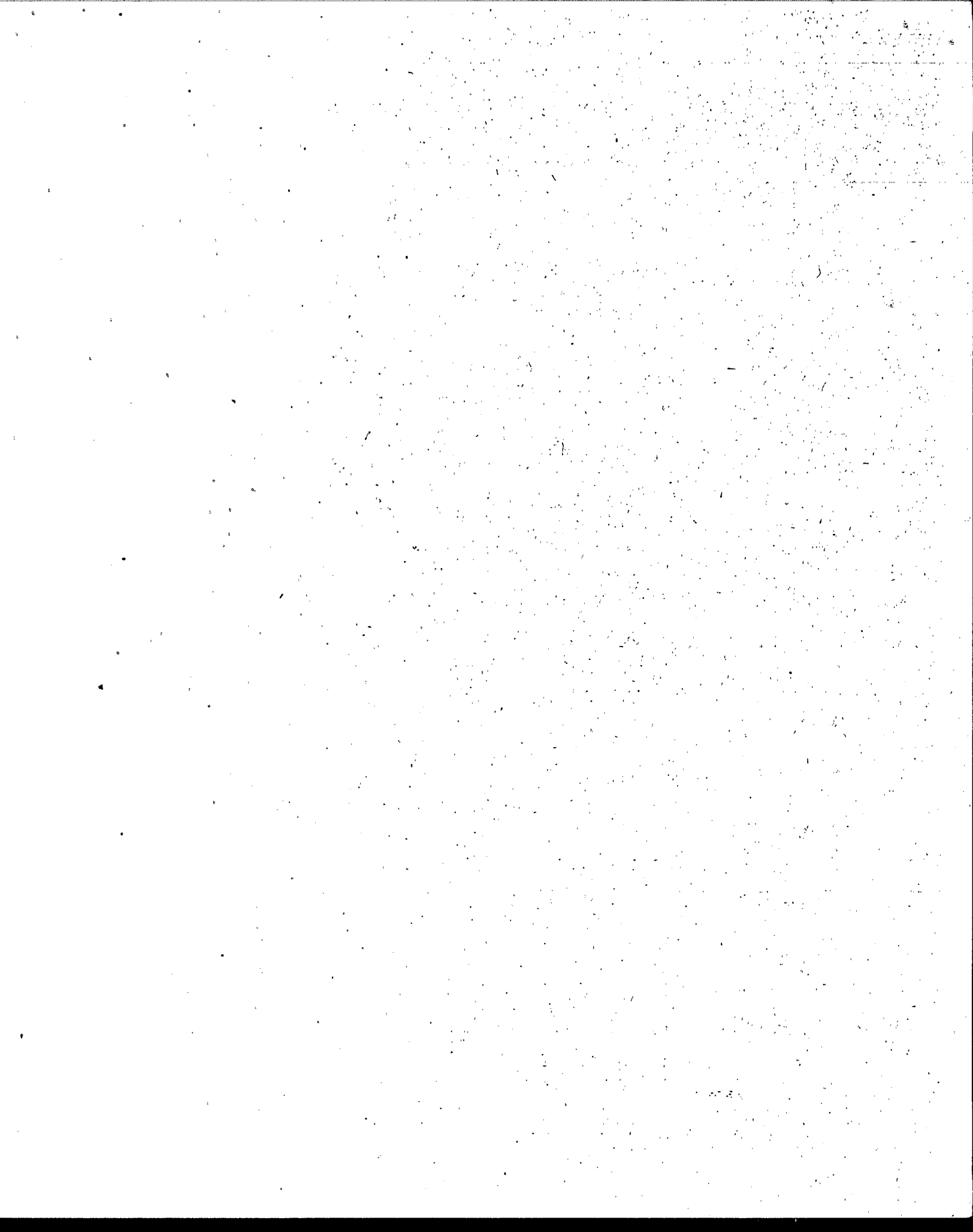
Vehicle Miles Travelled (VMT). -- A measure of both the volume and extent of motor vehicle operation; the total number of vehicle miles travelled within a specified geographical area (whether the entire country or a smaller area) over a given period of time.

Volatile Organic Compounds (VOCs). -- A group of chemicals that react in the atmosphere with nitrogen oxides in the presence of heat and sunlight to form ozone; does not include methane and other compounds determined by EPA to have negligible photochemical reactivity. Examples of VOCs include gasoline fumes and oil-based paints.



CLEAN AIR ACT AMENDMENTS OF 1990
LEGISLATIVE CHRONOLOGY

U.S. EPA
November 15, 1990



LEGISLATIVE CHRONOLOGY OF EVENTS - CLEAN AIR ACT AMENDMENTS

- o **JUNE 12, 1989** - President Bush announces the Administration's clean air proposal which comprehensively addresses three areas of environmental concern: acid deposition, toxic air pollution, and urban air quality
- o **JULY 21, 1989** - the legislative language interpreting the President's proposal is submitted to Congress
- o **JULY 27, 1989** - the Administration's bill is introduced by House Energy and Commerce Committee Chairman John Dingell (D-MI) as H.R. 3030 with 146 cosponsors (eventually 166); the measure is subsequently referred to the Energy and Commerce Committee
- o **AUGUST 3, 1989** - the Administration's bill is introduced in the Senate by Senator John Chafee (R-RI) as S. 1490 with 24 cosponsors (eventually 25); the measure is subsequently referred to the Senate Environment and Public Works Committee
- o **SEPTEMBER 13, 1989** - Health and Environment Subcommittee of the House Energy and Commerce Committee holds first of 11 mark-ups on H.R. 3030 that continue through October 11, 1989
- o **OCTOBER 11, 1989** - Health and Environment Subcommittee of House Energy and Commerce held their final mark-up of the Administration's bill (H.R. 3030); the measure, as amended, is sent to full Committee by a 21 - 0 vote
- o **OCTOBER 26, 1989** - Environmental Protection Subcommittee of Senate Environment and Public Works begins process of marking-up clean air legislation
- o **NOVEMBER 14, 1989** - Environmental Protection Subcommittee of Senate Environment and Public Works votes to include an Acid Rain title which is based on the Administration's original proposal; the Subcommittee had no further action on S. 1630
- o **NOVEMBER 16, 1989** - Senate Environment and Public Works votes out a Clean Air bill (S. 1630) by a 15 - 1 margin
- o **JANUARY 23, 1990** - Floor debate begins in the U.S. Senate
- o **FEBRUARY 1, 1990** - a group of bipartisan Senators begin meeting with Administration officials in a month-long, closed door negotiation session on amendments to S. 1630; during which, Senate floor debate is put on hold
- o **MARCH 5, 1990** - Senator George Mitchell announces agreement with the Administration on several key aspects of clean air; this measure is the product of the Administration and bipartisan Senate negotiations during February and served as the vehicle for Senate floor deliberation (it would eventually become S. 1630)
- o **MARCH 14, 1990** - Energy and Power Subcommittee of House Energy and Commerce reports H.R. 3030 out to full committee; the Subcommittee had jurisdiction over the alternative fuels and acid rain provisions in the bill, but the Chairman decided not to mark-up / amend their measure

- o **MARCH 14, 1990** -- House Committee on Energy and Commerce begins public mark-up of H.R. 3030
- o **APRIL 3, 1990** -- the Senate votes out the Clean Air Act Amendments of 1990; the measure was passed by a vote of 89 - 11. The following Senators voted against final passage of the bill: Byrd, Rockefeller, Simon, Dixon, McClure, Symms, Garn, Glenn, Helms, Nickles, and Wallop.
- o **MAY 17, 1990** -- House Committee on Energy and Commerce reports H.R. 3030 out of committee by a vote of 42 - 1; the measure then moved to the entire House of Representatives
- o **MAY 17, 1990** -- House Committee on Public Works and Transportation and the House Committee on Ways and Means were given sequential referral of certain aspects of H.R. 3030; both committees report the bill out on May 21, 1990
- o **MAY 17, 1990** -- House Committee on Ways and Means receives sequential referral of H.R. 3030 for a period ending no later than May 21, 1990
- o **MAY 23, 1990** -- the House of Representatives votes to pass a new Clean Air Act by a vote of 401 - 21
- o **JUNE 6, 1990** -- the Senate announces their conferees for the Clean Air Act Amendments of 1990, they are as follows: Senators Quentin Burdick (D-ND), Daniel Patrick Moynihan (D-NY), George Mitchell (D-ME), Max Baucus (D-MT), John Chafee (R-RI), Alan Simpson (R-WY), David Durenberger (R-MN) as well as Lloyd Bentsen (D-TX) and Bob Packwood (R-OR) of the Finance Committee for the fee-related provisions only, all other conferees are Senate Environment and Public Works Committee members
- o **JUNE 28, 1990** -- the House of Representatives announces their conferees for the Clean Air Act Amendments of 1990 -- the list includes 138 House Members overall with representation from seven committees, the six committees other than the Energy and Commerce will have jurisdiction over their individual areas
- o **July 13, 1990** -- House and Senate Clean Air Conferees hold their first joint conference. During the first session, the conferees selected Senator Max Baucus (D-MT) as the Conference Chairman
- o **October 22, 1990** -- House and Senate Clean Air Conferees reach final agreement on Clean Air reauthorization and thus conclude conference negotiations
- o **October 26, 1990** -- The House of Representatives considers the conference report and passes the measure with a 401 - 25 roll call vote
- o **October 27, 1990** -- The Senate considers the conference report and passes the measure with an 89 - 10 roll call vote
- o **November 13, 1990** -- S. 1630, "The Clean Air Act Amendments of 1990," is submitted to the President
- o **November 15, 1990** -- The President signs the Clean Air Act Amendments