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Joint Subcommittee Studying Pollution Prevention

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

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TABLE OF CONTENTS

I. Statement of U.S. Public Interest Research Group (October 23, 1992)

J. Recommendations of Virginia Manufacturers Association (December 16, 1992)

K. Elements For A Virginia Pollution Prevention Act, Chesapeake Bay Foundation (December 8, 1992)

L. Recommendations Concerning Pollution Prevention Proposals with Common Support, Virginia Manufacturers Association (December 31, 1992)

M. Comments on Proposed Pollution Prevention Legislation, Chesapeake Bay Foundation (December 31, 1992)

N. Senate Bill 650 (1993)

O. Senate Bill 570 (1993)

P. Senate Joint Resolution 207 (1993)

Q. Comments of Georgia H. Herbert on Draft Legislation (January 4, 1993)

REPORT OF THE JOINT SUBCOMMITTEE STUDYING POLLUTION PREVENTION

RICHMOND, VIRGINIA FEBRUARY 1993

TO: The Honorable L. Douglas Wilder, Governor, and the General Assembly of Virginia

I. INTRODUCTION

The 1992 Session of the General Assembly enacted Senate Joint Resolution No. 103, which authorized the establishment of a joint subcommittee to study pollution prevention in the Commonwealth. A copy of SJR 103 is attached as Appendix A. The subcommittee was composed of 12 members who were appointed in the following manner: three members of the Senate; four members of the House of Delegates; the Secretaries of Natural Resources and Economic Development or their designees; and three citizen members appointed by the Governor to represent business and industry, environmental organizations, and local government.

The joint subcommittee was specifically charged with:

- Identifying and evaluating potential incentives for the adoption of pollution prevention initiatives;
- Assessing the current range of pollution prevention activities in the Commonwealth; and
- Identifying and evaluating methods for increasing the availability of pertinent education and technical assistance.

The meetings of the joint subcommittee in 1992 focused on pollution prevention opportunities in private industry. Based on the knowledge gained thus far, the joint subcommittee developed twelve recommendations which are discussed in Part VII of this report. Due to the nature and complexity of the issues, the joint subcommittee concluded that the study should be continued for another year.

This document is submitted as the joint subcommittee's report of its 1992 activities.

II. BACKGROUND

A. Limits of the Pollution Control Approach

Legislative efforts to reduce the harmful effects of pollutants have traditionally focused on controlling the emissions of hazardous substances. Laws such as the Clean Air Act, the Resource Conservation and Recovery Act (RCRA), and the Water Pollution Control Act limited the release of pollutants at the end of the pipe or the top of the smokestack. This approach has achieved much success in improving environmental quality.

Despite the gains made by the pollution control approach, limitations to this traditional approach have become apparent. These limitations include:

•Limits of control technologies. Society may be reaching the technological and economic limits of control programs while it is imposing increasing demands to achieve greater levels of environmental protection. The annual cost of removing and disposing of pollutants by industries and public agencies at all levels was estimated by the EPA in 1991 to be $120 billion. Hazardous waste treatment and disposal costs have increased by as much as 300 percent over the past decade. These costs will increase exponentially in the future in order to meet more stringent emissions limitations. By the year 2000, the cost of controlling pollution is estimated to reach $155 billion annually, which is approximately 2.7 percent of the Gross National Product.[1] As the costs of meeting regulatory burdens increase, economic opportunities will be missed. By encouraging investment in costly pollution control technologies, capital resources which could have been invested in innovative technologies to reduce or eliminate the generation of the waste at its source may be diverted.[2]

•Cross-media transfers. Air pollution control devices have prevented wastes from being released into the air, and secondary advanced wastewater treatment processes have prevented contaminants from being released into the water. However, the ash and sludge collected by scrubbers, filters and other devices are, in themselves, contaminants which must be disposed in landfills, where they may cause groundwater contamination. Similarly, evaporation from ponds and lagoons can convert liquid wastes into air pollutants. Because pollution control laws often focus on a single medium, such as discharges into water, regulations may provide an incentive for the generator to dispose of the pollutant into another medium rather than to reduce or eliminate the generation of waste.

•Pollution from dispersed sources. Many of the pollutants entering the environment come from small generators or non-point sources which are not covered by pollution control regulations. For example, a small percentage of the chlorinated organics released into the environment comes from large industry; the bulk comes from a variety of largely unregulated activities such as dry cleaning, paint stripping and degreasing operations.

The limitations of a "control" approach have led to attention being given to an approach of preventing pollution in the first instance. Pollution prevention is not a new concept. A 1966 report of the House Subcommittee on Science Research and Development found that the concept of "maximum waste prevention in the first place, and the salvage of used materials, is an objective which would decrease the need for cleaning up the environment later on."[3] Pollution control laws, such as the Clean Air Act and Clean Water Act, have indirectly promoted pollution prevention by regulating inappropriate waste handling practices, increasing the costs related to pollution generation, and increasing the liabilities associated with disposal of wastes.

The concept of pollution prevention has been widely embraced. President Bush said in October 1990, that "[e]nvironmental programs that focus on the end of the pipe or the top of the stack, on cleaning up after the damage is done, are no longer adequate. We need new policies, technologies and processes that prevent or minimize pollution -- that stop it from being created in the first place."[4] The EPA Science Advisory Board wrote in September 1990 that "[e]nd-of-pipe controls and waste disposal should be the last line of environmental defense, not the first line. Preventing pollution at the source is usually a far cheaper, more effective way to reduce environmental risk, especially over the long term."[5] Former EPA Director William Reilly, testifying before the House Environment and Public Works Subcommittee on Environmental Protection, stated in May 1990:

> We must strengthen our ability to reduce waste at the source as much as practicable, thus reducing the need for costly, end-of-pipe treatment and remediation that imposes administrative burdens on all the parties and often leads to expensive litigation, which in turn siphons resources. EPA is now and will continue to promote cost-effective pollution prevention as the preferred option for reducing risk and for reducing the costs and the vexatious inter-media transfers of pollutants.[6]

B. The Pollution Prevention Concept

Defining Pollution prevention has engendered much discussion and debate. One widely recognized definition adopted by the EPA states that pollution prevention is the use of materials, processes or practices that reduce or eliminate the creation of pollutants or waste at source, including practices that reduce the use of hazardous materials, energy, water and other resources, and practices that protect natural resources through conservation or more efficient use.[7]

In its broadest sense, pollution prevention is an approach which holds that the best solution to environmental degradation is the reduction of the generation of pollution at its source. Embracing the concept of pollution prevention constitutes a shift away from the traditional emphasis on "end-of-pipe" control technologies installed in response to regulatory mandates.

Pollution prevention has been recognized as the first step in a hierarchy of options for reducing the risks to human health and the environment from pollution. Congress has declared it to be the national policy of the United States that the following hierarchy should be followed: "Pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner, whenever feasible; and disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner."[8]

Pollution prevention is distinguishable from several related concepts:

•Waste minimization means the reduction of hazardous waste generated or substantially treated, stored or disposed of, including any source reduction or recycling activity which reduces the volume or toxicity of hazardous waste. By including out-of-process recycling and some treatment methods, waste minimization is a broader concept than pollution prevention.

•Source reduction is often used synonymously with pollution prevention. It includes any practice that reduces or eliminates the use, generation or release of any hazardous substance, pollutant or contaminant entering any waste stream or the environment prior to recycling, treatment or disposal, and reduces the hazards to public health and the environment associated with their release. Source reduction, which is defined in the federal Pollution Prevention Act of 1990, includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training or inventory control.[9]

•Toxics use reduction refers to the activities included in the definition of source reduction, where the intent is to reduce, avoid, or eliminate the use of toxic chemicals in processes and products so as to reduce overall risks to the health of workers, consumers and the environment.[10]

•Recycling refers to the employing of a material which is used or reused (employed as an ingredient to make a product) or reclaimed (processed to recover a useful product or regenerated).[11] While some types of recycling, such as in-process or closed-loop recycling, resemble source reduction, others more closely resemble waste treatment or disposal. Determination of whether a specific type of recycling is pollution prevention will depend on a case-by-case determination of whether a recycling process is integral to and necessary for the production of a good or service.[12]

As a general rule, if a waste product is needed in order to conduct a waste management process, such as recycling or incineration, then the process is not within the scope of pollution prevention. Regardless of the definition ascribed to pollution prevention, two principles are evident. First, pollution

prevention depends on a multi-media focus which looks at all environment media--air, land and water--as a whole and attempts to avoid the transfer of risks from one medium to another. Second, pollution prevention depends on performing a comprehensive evaluation of all environmental impacts of products over their entire life-cycle, from the development of raw materials through manufacturing to use and ultimate disposal.[13]

Current pollution prevention efforts are largely focused on manufacturing processes which reduce the use or generation of industrial wastes. However, opportunities for pollution prevention range across other sectors of the economy, including agriculture, transportation and energy, where pollution prevention concepts can play a key role in solving pollution-related problems. For example, agricultural pollution may be prevented by development and adoption of low input sustainable agricultural practices that reduce the use of fertilizers, pesticides and water, and soil conservation and land management practices that prevent erosion and runoff of pesticides and fertilizer.[14] Pollution from energy consumption can be prevented by increasing energy efficiency, which reduces the generation of pollutants associated with the extraction, refining and use of fuels, and by increasing reliance on clean, renewable energy sources and alternative, less polluting fuels.[15]

Pollution can be prevented in many ways specific to particular production processes. Techniques which have been successfully implemented include:

1. Process controls: Precision of temperature and pressure applications as materials are reacted and handled can significantly alter the formation of toxics.

2. Cleaning processes: The use of organic solvents to clean products and equipment may create waste disposal problems for both the contaminants and the cleaning solvents. Solutions include use of water-based cleaners, nonstick liners on equipment walls, and nitrogen blankets to inhibit oxygen-induced corrosion.

3. Chemical catalysts: Substitution of feedstock materials that interact more efficiently with catalysts, use of different catalysts, and better ways to replenish or recycle the catalysts may induce more complete reactions, thereby reducing waste.

4. Coating and painting: Toxic waste generation can be reduced by using better spray equipment (such as electrostatic systems and robots) and alternatives to solvents for paint removal (such as plastic bead blasting).

5. Segregating and separating wastes: Keeping wastes and nonwastes segregated reduces the quantity of waste to be handled. Separation techniques, including distillation, osmosis through membranes, evaporation, filtration and centrifugation, can be used to convert some mixed wastes back to their constituent parts.

6. Material substitution and product reformulation: The use of less toxic materials in production effectively prevents pollution. Where the use of alternative raw materials is not feasible, it may be possible to reformulate the product to avoid the need for using toxic raw materials.

7. Recovery processes: Distillation and absorption processes may be used to recover organic solvents. Rates of recovery of 90% or more have been reported. Reverse osmosis and electrolysis can be used to remove metals from a waste stream. Particles trapped in filters may be recovered and reused.[16]

8. Waste exchange: A waste exchange is a market for the sale and purchase of by-products. Materials viewed as waste by one manufacturer may be viewed as a valuable resource by another. Both parties benefit, either from the sale and avoided disposal costs of previously unmarketable wastes, or from receiving raw materials at inexpensive prices.

C. Advantages of Pollution Prevention

Pollution prevention, it has been said, "offers the unique advantage of harmonizing environmental protection with economic efficiency."[17] Several of the economic advantages cited as accruing from a pollution prevention approach include:

•Reduced liability: Under the Resource Conservation and Recovery Act, and Liability Act (RCRA), generators have "cradle to grave" responsibility for the waste they generate. Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), waste producers are subject to joint and several liability for cleanup costs. Under these laws, waste generators are subject to the possibility of unlimited liability for harm from their wastes, even if the wastes are managed using the best known practices.[18] Also exposing workers to potentially hazardous substances during manufacturing processes may create liability for a manufacturer.

•Reduced waste disposal costs: Firms undertaking waste reduction are benefitted by reduced on-site waste treatment costs, and reduced costs of transporting and disposing of wastes shipped off-site for disposal. Bans on waste disposal in landfills by industry, and increases in tipping fees are making disposal costs more expensive. Also pressure is increasing to limit interstate transfer of hazardous wastes, either by imposing "import" fees or legislative prohibitions.[19]

•Avoidance of control technologies: Where compliance with emission standards can be obtained through the installation of wet scrubbers, precipitators and other equipment, the costs may be exorbitant. Changing production processes to eliminate the need for installing control equipment may be the most cost-effective method of meeting emissions limitations.[20]

•Improved efficiency: Examples of voluntary source reduction efforts made by specific companies show that major savings can be realized as a result of increases in production efficiency. The reduction or elimination of

wastes produces savings in the cost of raw material, because more product can be produced from the same amount of raw material. Closely examining the manufacturing process, which is a prerequisite to a successful pollution prevention approach, can produce a number of side benefits, such as improvements in energy and water conservation and improved, or more consistent, product quality.[21] The EPA Science Advisory Board has found that some pollution prevention techniques, including more efficient use of energy and recycling process materials, can pay for themselves quite apart from environmental considerations. The Board noted that one reason Japan and Western Europe are formidable economic competitors is their efficient use of energy and raw materials, and that competition in the global market place will require American business to use them more efficiently.[22]

•Public relations: Industries that are required to file Toxics Release Inventory (TRI) reports under Section 313 of the Emergency Planning and Community Right-to-know Act of 1986 do not want to be known as environmental polluters. The TRI reports, which are publicly available, reveal the amount of certain toxic chemicals released into the environment prior to any recycling or treatment. Industries find it is good business to have good relations with their communities, and being reported as a major toxics polluter can damage a company's image.[23]

In addition to these economic benefits, the EPA has identified the following benefits of pollution prevention which accrue to the environment:

•Improving effectiveness: Pollution prevention reduces the risk inherent in managing waste streams and residues that result from pollution control methods. An end-of-pipe focus is reactive rather than preventive, and is inherently incapable of avoiding the generation of waste. Addressing the origins, rather the symptoms, of environmentally damaging activities is a more effective approach. Prevention approaches avoid the potential risk of control technology failure and problems with effective operation and maintenance of control technology.

•Avoiding uncertainty: The threat to health and the environment caused by some toxic chemicals is not known with certainty. Pollution prevention is the surest way of eliminating the risk inherent in any release of pollutants with uncertain health implications into the environment. When there is an opportunity to eliminate risk, the public may be unwilling to accept the results of efforts to determine what level of risk is acceptable.

•Multi-media transfers: Pollution prevention avoids the inadvertent transfer of pollutants across media that may occur with media-specific control technologies and approaches.

•Resource protection: Pollution prevention can protect natural resources by avoiding excessive levels of wastes and residues, minimizing the depletion of resources, and assuring that the environment's capacity to absorb pollutants is not exceeded.[24]

D. Barriers to Pollution Prevention

Given all of the purported advantages of pollution prevention, one may wonder why it has not been universally adopted. Congress has recognized that the "opportunities for source reduction are often not realized because existing regulations, and the industrial resources they require for compliance, focus upon treatment and disposal, rather than source reduction; existing regulations do not emphasize multi-media management of pollution; and businesses need information and technical assistance to overcome institutional barriers to the adoption of source reduction practices."[25] Pollution prevention is in limited use by industry because of institutional obstacles in both industry and government, including a lack of information, lack of awareness, and a management orientation toward meeting requirements and deadlines imposed by current pollution control regulations.[26]

Other factors impeding pollution prevention implementation include:

•Expense: Changing a production process may be expensive, and capital may not be available for investment. Small companies in particular may not be willing to take the risks inherent in new approaches.

•Technology: Some manufacturing processes have limited flexibility. The reason a less polluting process or less-toxic material is not in use may be due to the absence of alternatives.

•Fear: Management may fear that changing an existing production process may violate pollution control laws or adversely affect product quality, or that information gathered during a review of their production process may be used against them by regulators or cause a loss of trade secrets.[27]

•Accounting: Conventional accounting does not consider the long-range environmental costs and benefits of a production decision. For example, there is no accounting for the financial benefit of avoiding the risk of a Superfund clean-up action in the future.[28] Tracking environmental costs is complicated by the practice of most companies not to internally charge the fees for transporting and disposing of wastes back to the particular manufacturing unit that produced the wastes.

•Environmental regulations: Effluent guidelines and other regulations have been written with little regard to pollution prevention. For example, when pulp and paper standards were written in the 1970's, process modifications, such as substituting chlorine dioxide for elementary chlorine, were never considered. The water office of EPA was primarily concerned with dioxins, while the air office of EPA was most concerned with chloroform. Each office could develop its regulations unilaterally without concern for the impact of its rule on the other media. Steps are now reportedly being taken to address this problem at the federal level.[29] Industry groups also may balk at instituting pollution prevention from fear that new regulations which do not account for prior, voluntary reductions would be unfair. Voluntary participation in pollution prevention programs, such as the EPA's 33/50

Project, may impair a company's ability to comply with future environmental regulations which may require volume or percentage-based reductions in the amount or toxicity of waste generated.

III. FEDERAL POLLUTION PREVENTION LEGISLATION

Federal environmental legislation has an important influence on state pollution prevention programs and the implementation of pollution prevention measures by private industry. John Atcheson, Chief of the Prevention Integration Branch of the Pollution Prevention Division of EPA, spoke at the first meeting of the subcommittee on the philosophical underpinnings of pollution prevention. It has become apparent that the scale of the human economy has begun to rival that of natural systems; ecological systems are much more sensitive than had been presumed; and the pace of change is dramatically faster than anything natural systems have previously experienced.

The Pollution Prevention Act of 1990 is based on the fundamental philosophy that source reduction is a cost-effective activity, and that once regulatory and cultural impediments to the adoption of pollution prevention activities are removed, it will be voluntarily implemented. Unlike a traditional regulatory program, pollution prevention requires knowledge of the process employed by each potential polluter, and therefore an effective program must focus on the proper allocation of roles among federal, state, and local levels of government and private industry. Voluntary programs play a big part in implementing pollution prevention and are based on the premise that if a program is cost-effective, it will be adopted if government provides the necessary information and incentives.

The federal pollution prevention program is not limited to industrial pollution, just as environmental pollution does not come only from manufacturing plants. The EPA has adopted strategies to implement pollution prevention in the sectors of government, transportation, energy, and agriculture. Mr. Atcheson noted the importance of addressing the agricultural sector through integrated pest management and sustainable agricultural practices, because most surface water degradation in the United States comes from agricultural, not industrial, activities. Strategies have also been adopted in the consumer sector, because the EPA recognizes that until consumers send the "right" signals, we will not have clean goods produced. The EPA's attempt to mobilize consumer behavior has focused on working with the Federal Trade Commission in developing labelling guidelines for advertising claims.

Given the federal program's premise that pollution prevention is cost-effective and, with information and incentives, will be voluntarily implemented, it is fair to ask whether it has been successful. The results, according to Mr. Atcheson, are mixed. There has been much activity in the area of pollution prevention, but many regulatory impediments remain.

A. Pollution Prevention Act of 1990

Congress enacted the Pollution Prevention Act[30] in October 1990 as part of the budget reconciliation. The Act recites in its findings that source reduction "is fundamentally different and more desirable than waste management and pollution control," and that the EPA "needs to address the historical lack of attention to source reduction."[31] A copy of the Pollution Prevention Act of 1990 is attached as Appendix B.

The Act establishes an office within the EPA with the power to review and advise other offices within the agency on their activities to promote a multi-media approach to source reduction. The EPA is required to develop and implement a strategy to promote source reduction, including facilitating the adoption of source reduction by business through matching grants, information exchange, and technical assistance. The matching grant program provides that federal funds will not exceed 50 percent of the available monies, and will target assistance to businesses for whom lack of information impedes source reduction efforts.[32] Congress also appropriated $8 million for state matching grants for each of the years 1991, 1992 and 1993.

Any owner or operator of a facility required to file a Toxics Release Inventory (TRI) report pursuant to Title III of the Superfund Amendments and Reauthorization Act (SARA) will be required to include a toxic chemical source reduction and recycling report covering chemicals on the TRI list. The Act specifies eight types of information to be included in source reduction and recycling reports, such as an identification of source reduction practices, techniques used to identify source reduction opportunities, and the amount of chemicals treated (at the facility or off-site).[33] The reporting provisions of the Act require facilities to provide a production index (or other information needed to indicate the effects of changes in economic conditions or overall activity) as well as the quantity of chemical that would have been generated as waste if source reduction had not been implemented. The EPA expects these expanded reporting forms to assist it in making accurate assessments of source reduction progress.[34]

The first initiative under the Act is the Industrial Toxics Project, also known as the 33/50 Project, which calls for industry to voluntarily reduce its releases of 17 key toxic chemicals to all environmental media to a level 33 percent below its 1988 levels by the end of 1992, and 50 percent below its 1988 levels by the end of 1995. The chemicals on the 33/50 list include benzene, chloroform, lead, chromium, cyanide and toluene.[35] As of May 19, 1992, over 750 companies had made commitments to the 33/50 Project.[36] Virginia has documented a 24.4 percent decrease in the amounts of "33/50" chemical releases or off-site transfers between 1988 and 1990, despite a 9.5 percent increase in the number of reporting facilities. An estimated 45 of 198 parent companies, including 70 of 250 facilities, in Virginia have committed to the 33/50 Program.[37] A memorandum summarizing Virginia's involvement in the 33/50 Program is attached as Appendix C.

B. RCRA

The Resource Conservation and Recovery Act (RCRA) regulates the generation, transport, treatment, storage and disposal of hazardous waste.[38] The Hazardous and Solid Waste Amendments of 1984 (HSWA) requires hazardous waste generators to certify that they have a waste minimization program in place.[39] HSWA also required generators to file a Hazardous Waste Generator Survey, a one-time survey collected by the EPA. Subsequently, generators are required to file Hazardous Waste Biennial Reports containing the information initially collected under the Generator Survey. RCRA gives states authority to run their own programs for waste minimization and certification, provided the state program is at least as comprehensive as the EPA program. States may take the federal reporting requirements further and, for example, require annual (rather than biennial) reports and expand the list of required information.

The RCRA biennial census applies only to transportable hazardous wastes, and does not include air and water discharges. Consequently, it does not indicate whether solid waste reductions are being made at the expense of air emissions or water discharges. The RCRA reports also include large volume waste streams with multiple contaminants, making tracking of specific contaminants difficult.

The place of RCRA in pollution prevention may grow more prominent. A RCRA reauthorization bill (S. 976) introduced in the 1992 Session of Congress include a new pollution prevention title that calls for EPA to expand the list of reporting industries by at least 17 industrial categories and calls for required reporting of at least 250 additional chemicals under SARA Title III's Toxics Release Inventory. The Senate draft also requires facilities to generate in-depth pollution prevention plan, including reports on the amount of toxics used and disposed. Though this bill was not approved, similar legislation may be introduced in 1993.

C. SARA Title III

In 1986, Congress enacted the Superfund Amendments and Reauthorization Act (SARA).[40] Section 313 of Title III of SARA, also known as the Emergency Planning and Community Right-to-Know Act (EPCRA), requires plants that (i) employ at least ten persons, (ii) fall within the manufacturing Standard Industrial Classification (SIC) Codes 20-39, and (iii) use at least 10,000 pounds or manufacture at least 25,000 pounds of approximately 300 specified toxic chemicals, to report their annual releases of the chemicals. The data reported by the manufacturers is contained in the Toxics Release Inventory (TRI). The TRI information is available to the public, and provides valuable information on emissions into all environmental media. Unlike any other database, the TRI permits the tracing of chemical releases at specific facilities on a multi-media basis. The TRI reports also provide for reporting of any source reduction and recycling efforts undertaken by the manufacturer with respect to the toxic chemical release, which reporting has been made mandatory by the Pollution Prevention Act of 1990.

The TRI reports have focused the attention of a variety of interests -- manufacturers, regulators, and the public -- on the amount of toxic chemical released. This attention has increased efforts to reduce releases of reported toxics, which in turn has highlighted pollution prevention. Since the first TRI reports were filed in 1987, toxics releases have fallen from 7.0 billion pounds in 1987 to 6.5 billion pounds in 1988, 5.7 billion pounds in 1989, and 4.8 billion pounds in 1990.[41]

TRI data assembled by the Department of Waste Management reveals that releases and transfers in Virginia of the approximately 300 toxic chemicals covered has been cut from 189 million pounds to approximately 103 million pounds between 1987 and 1990. This 45 percent reduction is particularly impressive because the number of reporting facilities has increased by 21.6 percent during this period. Virginia has fallen from the twelfth largest source of reported toxics in the nation in 1987 to sixteenth in 1990.[42]

Reliance on the TRI has been subject to criticism. In many cases, the apparent reductions may be due to changes in reporting practices rather than actual physical changes in quantity.[43] The TRI describes only the emissions of manufacturers, which make up a fraction of the total emissions of a range of small, dispersed sources. The TRI reports emissions or transfers after treatment, rather than the pollution generation data needed for comprehensive prevention analysis. Only 10 percent of the responses filed in 1988 included information describing waste reduction and minimization efforts. The TRI does not require reporting of "unlisted" chemicals, and may invite industries to revise their operations to substitute a chemical which must be reported to a chemicals not on the list, or to send the wastes off-site for treatment or disposal. Environmentalists have questioned whether some TRI reductions are due to a downturn of production during a recession, and allege that of the top 50 companies reporting TRI reductions from 1988 to 1989, only 13 were the result of pollution prevention or control efforts.[44]

In addition to providing for the TRI, SARA also requires states to develop by October 1995 a capacity assurance plan for handling hazardous wastes generated within the state over the following 20 years. Some states have responded by requiring that pollution prevention measures be adopted to decrease the amount of hazardous waste for which they must plan disposal capacity. A state which cannot provide capacity assurance will not be eligible for federal funds for Superfund cleanups. Virginia has no hazardous waste landfills, though it does have two commercial burners of hazardous solvents. The Department of Waste Management has projected a 35 percent decrease in the generation of hazardous waste in the Commonwealth between 1989 and 1995 resulting from waste reduction efforts. Virginia currently exports approximately 40,000 tons of hazardous waste to 15 states for treatment of disposal. The Department anticipates that in the absence of significant reduction in the amount of hazardous waste generated, a hazardous waste disposal facility may have to be sited in Virginia in order to comply with SARA.

Congress considered changes to SARA Title III during the 1991-1992 term. Senator David Durenberger (R.-Minnesota) introduced the Toxic Release and Pollution Prevention Act on March 20, 1992. This bill would have amended SARA Title III to establish matching grant programs to assist states in meeting requirements of the Act. States would have been required to provide at least 20 percent of the funds.

D. Other Federal Initiatives

1. 1990 Clean Air Act Amendments

The 1990 Amendments to the Clean Air Act contain provisions advancing the pollution prevention ethic through the Early Reduction Program. This program gives the owner of a source of hazardous air pollutants a six-year extension on the deadline for installation of "maximum available control technology" if it makes an enforceable commitment to reduce the pollutants to an amount which is 90 percent below their 1990 levels prior to January 1, 1994.[45]

In addition, the 1990 Amendments provide market incentives for the implementation of pollution prevention. Under new trading allowance provisions, generators who cut their sulfur dioxide emissions below prescribed limits may "sell" their extra reductions to other generators. The goal of this provision is to encourage the cutting of emissions below the fixed acceptable limits.[46]

Beyond these specific features, the 1990 Amendments add as a primary goal of the Clean Air Act the encouragement or promotion of "reasonable federal, state and local government actions, consistent with the provisions of this Act, for pollution prevention."[47] The pollution prevention provisions of the Amendments include requiring reformulated gasoline in smog-ridden cities beginning in 1995, and phasing out chlorofluorocarbon (CFCs) and halons beginning in 1993. The Virginia General Assembly has established a Small Business Technical and Environmental Compliance Assistance Program pursuant to the requirements of the Clean Air Act Amendments.[48]

2. Proposed Clean Water Act Reauthorization

The federal Water Pollution Control Act, or Clean Water Act,[49] has focused on controlling discharges of effluent into the nation's water. Since 1987, the State Water Control Board has administered the Toxics Management Program, which requires monitoring plans for discharges of toxic pollutants as a condition of VPDES permits. Demonstrating effluent toxicity and identifying and implementing options to reduce toxicity have proved time consuming and expensive. This approach to toxic water pollution control may change dramatically, however, if the Clean Water Act is amended as proposed by legislation introduced in 1991.[50] Though the bill was not enacted, similar legislation is expected to be introduced in 1993.

One of the bill's stated purposes was to establish initiatives to control and eliminate pollution, with special emphasis on pollution prevention. In addition to covering direct industrial dischargers, it targeted industries that discharge to publicly owned treatment works (POTWs) by requiring pretreatment of waste. It would have required preparation of independent environmental audits for all dischargers who report toxic chemical releases under SARA Title III. Audit results would be used to set permit limits and develop a schedule for improving compliance and necessary corrective actions.

In addition to addressing traditional end-of-pipe treatment in establishing minimum national technology-based standards, the bill would consider changes within a facility. Most significantly, it would require that point source dischargers demonstrate that they will take steps to eliminate toxic discharges or minimize their toxicity or volume to the extent of their economic capability. Dischargers would be required to show that there is a maximum use of measures, processes, methods, systems or techniques to eliminate the discharge or reduce pollutant volumes and toxicity through process changes, material substitution, or other modifications. Dischargers will be required to provide assurance that they will implement reasonable measures to prevent pollution and reduce their use of toxics.

3. Office of Pollution Prevention Activities

The Office of Pollution Prevention was established within the EPA two years before the passage of the Pollution Prevention Act. The Office, which is now housed with the toxics program in the Office of Pollution Prevention and Toxics, coordinates and promotes pollution prevention activities throughout the EPA and with other agencies, states and industries. The objectives of the Office's pollution prevention strategy include (i) promoting voluntary reductions, (ii) developing required regulations in clusters with consideration of cross-media affects, (iii) developing pollution prevention strategies in different sectors, including agriculture, energy and transportation, the federal government, and consumers, and (iv) integrating pollution prevention into existing agency programs.

Activities undertaken by the EPA to foster pollution prevention include:

•Green Lights program. A nonregulatory program developed by EPA's Air Office, the program attempts to persuade companies and governments to upgrade their facilities with energy-efficient lighting. As of August 1992, over 600 companies have signed agreements pledging to install new lighting technologies. Each Green Lights "partner" commits to installing energy-efficient lighting in 90 percent of its space nationwide over a five-year period, where it is cost-effective and where lighting quality is not reduced. The goal of the program is to reduce electricity demand by 10 percent, thereby reducing emissions of carbon dioxide, sulfur dioxide and nitrogen oxide by four to seven percent.[51]

•Two-Percent Set-Aside program. EPA sponsors an agency-wide competition for pollution prevention projects to encourage innovative projects. The program is funded by setting aside two percent of the agency's extramural budget. In fiscal year 1991, 25 projects were selected for funding, including the Chesapeake Bay Pesticide Index and Registry. The Registry seeks to reduce the environmental impact of pesticides in the Bay watershed by encouraging the use of pesticides that minimize potential risk.[52]

•Pollution Prevention Incentives for States grant program. The EPA is promoting the establishment and expansion of state multi-media pollution prevention programs. In fiscal year 1989-90, the EPA awarded over $11 million to 40 state and interstate organizations to conduct demonstration projects; provide direct technical assistance to industry, businesses and local governments; and institutionalize pollution prevention as an environmental management priority.

•Pollution Prevention Information Clearinghouse. An EPA-sponsored project, the Clearinghouse runs the Electronic Information Exchange System, an interactive computerized information network. The System is accessible to personal computer users without charge, and provides public access to technical and programmatic information.

•Enforcement Policies. In February 1991, the EPA issued a policy encouraging federal negotiators to include pollution prevention as part of settlement conditions. Instituting pollution prevention measures may in some instances mitigate the severity of a penalty or provide injunctive relief. The EPA has also allowed greater use of supplemental environmental projects (SEPs) in settlements if the SEP incorporates pollution prevention activities. A SEP does not correct the violation, but may be included in a consent order because it provides additional environmental benefits. Usually SEPs will not be approved as part of a settlement if they benefit the violator more than the public. Negotiators may waive this sound-business-practice limitation only for pollution prevention projects.[53]

E. Pollution Prevention at Other Agencies

Federal agencies other than the EPA are involved in pollution prevention efforts. The Department of Energy has many facilities that generate hazardous waste, and exerts influence on the practices of its suppliers and contractors.[54] DOE has established an Industrial Waste Reduction Program (IWRP) with the mission of improving the energy efficiency of industrial processes through cost-effective waste reduction. The National Energy Strategy establishes waste minimization as a fundamental goal for the Department's industrial energy program. The goal of the IWRP is to help industries overcome barriers to advanced waste reduction and utilization technologies by providing research and development for process technologies that reduce waste, conversion technology, regulatory changes to foster improved waste management, and information and outreach.

The Department of Defense (DOD) is cooperating with the EPA and other federal agencies in the Waste Reduction Evaluations at Federal Sites (WREAFS) program. Several WREAFS programs are being conducted as components of the "Military Facility Model Community Pollution Prevention Demonstration Program Within the Chesapeake Bay," initiated through an EPA-DOD Chesapeake Bay Agreement dated April 20, 1990. The Agreement committed the two agencies to incorporate pollution prevention activities and programs at Langley Air Force Base, Fort Eustis and Norfolk Naval Base. NASA later joined the Agreement and included the NASA Langley Research Center.[55]

In August 1991, the EPA, DOD, NASA, the Army, Air Force and Navy signed an agreement establishing the Tidewater Interagency Pollution Prevention Program (TIPPP). A cooperative demonstration program, TIPPP was developed to provide a model for incorporating various pollution prevention concepts into a military community, with the goal of demonstrating benefits that might be applicable to private industry and other communities. Captain Tom Welch from Langley Air Force Base addressed the joint subcommittee at its second meeting and described the program's efforts to institutionalize and integrate multi-media pollution prevention in agency policies and operations.

IV. POLLUTION PREVENTION PROGRAMS IN OTHER STATES

The joint subcommittee received extensive reports on the approaches other states are taking to encourage pollution prevention. An overview of other state programs was given at the first meeting. At the joint subcommittee's third meeting, representatives from Connecticut, Minnesota and New York outlined their state's programs.

A. Overview of State Legislation

As of August 1991, 25 states had enacted pollution prevention legislation.[56] Other states, including Virginia, which had not adopted pollution prevention laws had adopted programs to advance source reduction. The laws adopted by other states vary widely in scope and detail, but may be classified either as requiring facility planning or relying on voluntary implementation of source reduction activities. A chart summarizing state laws enacted as of August 1991 is attached as Appendix D.[57]

1. Facility Planning Legislation

Sixteen states (California, Georgia, Iowa, Maine, Massachusetts, Minnesota, Mississippi, Missouri, New Jersey, New York, North Carolina, Oregon, Tennessee, Texas, Vermont, and Washington) require designated facilities to create comprehensive pollution prevention plans. Two additional states (Illinois and Indiana) encourage, but do not require, the preparation of facility plans.

Facility planning legislation reflects the opinions that most in industrial facilities would never take advantage of pollution prevention opportunities unless required to conduct planning, and that only an individual facility has the process-specific knowledge needed to make the best pollution decisions for that facility.[58]

Facility planning laws generally require certain industrial facilities to prepare plans including the following items:

- Adoption of the plan into management practices and procedures;
- Policy statement of support for the plan;
- Description of waste reduction practices and an evaluation of their effectiveness;
- Accounting of the costs of the use and disposal of hazardous materials, including regulatory compliance costs;
- Measurement of the amount of waste generated per unit of production output or raw material used;
- Analysis of feasible source reduction and materials substitution methods; and
- Specific pollution prevention goals.[59]

The types of facilities required to prepare plans under these laws vary. Most include facilities required to report TRI data. Some states also require plans to be prepared by large- and small-quantity hazardous waste generators (as defined by RCRA), or holders of specific types of environmental permits. For example, North Carolina's law requires that plans be prepared by persons required to hold a water quality permit or an air quality permit, as well as hazardous waste generators and operators of some hazardous waste treatment facilities. Chemicals covered by facility planning laws also vary. While some use the list of chemicals covered by the TRI, some include hazardous waste covered by RCRA and chemicals covered by CERCLA. Other states, such as Massachusetts and Washington, authorize a state agency to add additional compounds to the list.

Additional features typical of a facility planning law are requirements for periodic updating of the plans, protection for trade secrets, and filing reports summarizing the facility's progress in implementing its plan. Facility planning laws rarely require more than the preparation of the plan. While California, New York and Maine permit enforcement actions to be taken against a facility which fails to implement its plan or achieve specific waste reductions, most states may penalize only facilities which do not prepare an adequate plan or submit a report. This focus on the process, rather than on the result achieved, reflects the belief that pollution-preventing steps will be voluntarily adopted by a facility once it has quantified the economic and environmental benefits to be derived from their implementation.

2. Other Types of Laws

All of the states with pollution prevention legislation, including those which require facility planning, have enacted laws which seek to expand the voluntary adoption of source reduction activities. These non-mandatory pollution prevention laws provide a menu of options, and while some states have adopted one or two of the approaches, other states have adopted most of them. Types of pollution prevention legislation include:

(i) Programs to increase public awareness and information regarding pollution prevention;

(ii) Technical assistance to waste generators through telephone hotlines, computer databases, preparation of industry-specific brochures, and on-site waste audits and assessments;

(iii) Financial assistance to subsidize pollution prevention activities through grants, loans, tax deductions, and investment tax credits;

(iv) Imposition of taxes or fees on waste generation, based on the amount or toxicity of the waste, thereby creating a disincentive for waste generation while providing a source of funds for source reduction programs;

(v) Regulatory incentives, such as offering expedited permit reviews, for companies that adopt pollution prevention;

(vi) Requiring rate agencies to prepare reports describing pollution prevention options and progress;

(vii) Establishing research and information centers or institutes;

(viii) Prohibiting the use of certain compounds, such as phosphates in detergents or heavy metals in packaging;

(ix) Establishing an awards program to honor successful pollution prevention programs;

(x) Developing demonstration or pilot projects for the development of source reduction technologies; and

(xi) Establishing a waste exchange to assist companies in finding a market for by-products.

3. Establishment of Policies and Goals

At least 20 states have established policies favoring pollution prevention. All of these legislative policies adopt the environmental management hierarchy supported by the EPA, which places pollution prevention as the preferred method, followed by recycling, treatment, and finally disposal. The first policy was adopted by North Carolina in 1981.[60]

Seven states have gone beyond establishing a policy by establishing specific goals for reduction of the generation of hazardous waste, the use and release of toxic substances, or the toxicity of wastes. These seven states are Louisiana, Maine, Massachusetts, Mississippi, New York, Tennessee, and Washington. Most are state wide goals to which all generators are encouraged to reach. For example, Louisiana is seeking a 50 percent reduction in toxic air emissions over five years.

B. Connecticut Program

Dominic Forcella, Executive Officer of the Connecticut Hazardous Waste Management Service, described the Connecticut Technical Assistance Program (ConnTAP) to the joint subcommittee at its third meeting. ConnTAP offers technical assistance in the form of site visits to businesses, an information and referral hotline, a newsletter, conferences and workshops. ConnTAP also provides financial assistance through matching grants of up to $7,500 each to help recipients identify and evaluate pollution prevention opportunities, and through the Environmental Assistance Revolving Loan Fund, which provides up to $250,000 for ConnTAP-approved projects.

ConnTAP is a program of the Connecticut Hazardous Waste Management Service, a nonregulatory, quasi-public organization founded in 1983 with statutory responsibility to promote the appropriate management of hazardous waste. Mr. Forcella reported that its status as an independent office, not connected to the state Department of Environmental Protection, is favored by Connecticut's business sector. Funding for ConnTAP is provided from the state's general fund.

C. Minnesota Program

Kevin McDonald of the Minnesota Office of Waste Management discussed his state's Toxic Pollution Prevention Act of 1990. The Act establishes a state policy encouraging the prevention of toxic pollution through techniques and processes that reduce the generation of waste at its source and minimize its transfer from one environmental medium to another. A dozen staff members provide technical assistance to help companies identify and implement pollution prevention measures such as process or product modification, inventory controls, feedstock substitutions and improved efficiency of machinery. The Act provides about $150,000 in matching grants for projects that assess the feasibility of pollution prevention technologies.

In addition, Minnesota requires each facility reporting toxic chemical releases under the Community Right to Know Act (SARA Title III) to develop a plan establishing goals for reducing or eliminating toxic pollutant releases. The plans remain confidential, and facilities are not penalized if they fail to achieve their goals. However, each facility must submit an annual progress report based on its plan. The progress reports are available for public review, and if the report does not contain the required information, the company may

be subject to enforcement action. The program is funded by an annual fee on companies filing reports required by SARA Title III. The fees, based on the number and amounts of toxic pollutants released, will raise approximately $1.2 million annually.

Mr. McDonald presented the results of an industry survey, in which 85 percent of the respondents rated the program as effective in encouraging steps to prevent pollution, and 80 percent said it is worthwhile to prepare facility plans. Minnesota spends over $1 million annually, and has a staff of 21, for assistance to industry. Nevertheless, the survey also revealed that 85 percent of the companies responding agreed that more nonregulatory assistance should be provided.

D. New York Program

Dennis Lucia of the Division of Hazardous Substance Regulation described the New York program to the joint subcommittee via teleconference. The New York Hazardous Waste Management Act offers an interesting comparison to the Minnesota program. Though both require facilities to prepare pollution prevention plans, New York's program differs in the following aspects:

- Facility plans are submitted for state review, and remain confidential only if labelled so by the company. If the Department rejects a plan as being inadequate, the facility will not be able to obtain a manifest to transport its waste off-site.

- Rather than being a multi-media law covering air and water emissions, the New York program is limited to hazardous solid waste.

- Technical assistance is limited to providing a guidance manual for facilities required to submit plans and conducting conferences. Grants and loans are not available.

- Funding for the program is provided by general fund appropriations and fines, rather than by a fee on emissions.

- The Act establishes a statewide numeric goal of a 50 percent reduction in hazardous waste over the next 10 years.

The facility planning requirement is being phased in over several years based on the amount of waste generated. The nine people staffing the program have reviewed 110 plans submitted by the largest generators, and expect to review over 500 additional plans as smaller generators are required to submit them within the next three years.

V. VIRGINIA'S POLLUTION PREVENTION EFFORTS

The pollution prevention concept is being embraced by the Commonwealth's environmental agencies. In the summer of 1991, Secretary of Natural Resources Elizabeth H. Haskell issued a Pollution Prevention Policy Statement which recited that "pollution prevention offers significant

environmental and economic benefits to the public, industries, firms, and institutions in terms of worker and environmental protection, increased efficiency and competitiveness, and conservation of natural resources."[61] A copy of the statement, which was endorsed by the Water Control Board, Air Pollution Control Board, and Waste Management Board is attached as Appendix E.

The emphasis on pollution prevention is also evident in the implementation plan for the new Department of Environmental Quality, which provides that the first goal of the new agency is to promote pollution prevention.

The Department of Waste Management has conducted a program emphasizing waste minimization since 1988. The Waste Reduction Assistance Program (which was called the Waste Minimization Program until April 1992) is a voluntary program located in the Office of Policy, Planning and Public Affairs. The objective of the program is to assist waste generators reduce the volume and toxicity of the waste they produce. Clients include industry, state and local governments, academic institutions, laboratories, hospitals, the military and the general public.

The principal function of the program is to gather, consolidate, and disseminate information to clients. Services offered by the program include:

- Workshops to meet targeted industry needs;
- Preparation of industry-specific reports;
- Virginia Waste Reduction Information Clearinghouse;
- Access to national electronic database, including the EPA's Pollution Prevention Information Clearinghouse;
- Case studies on successful waste reduction programs; and
- Access by telephone to trained engineers.

In July 1990, the program received a grant of almost $300,000 from the EPA to establish an interagency multi-media pollution prevention (IMPP) project team. Under this two-year grant, the Departments of Waste Management and Air Pollution Control and the State Water Control Board are charged with coordinating their pollution prevention activities to avoid the shifting of releases from one environmental medium to another. Responsibilities of the project team include training staff, assisting agencies, reevaluating regulations, and institutionalizing objectives of multimedia pollution prevention in agency policies and day-to-day operations. Each agency has designated an individual "champion" who will facilitate incorporation of pollution prevention strategies and recognition of multi-media impacts of agency decision making.

Specific activities of the IMPP project team and Waste Reduction Assistance Program activities include:

- Virginia environmental agencies staff pollution prevention training;
- Waste reduction factsheet development (twenty fact sheets have been developed to date);
- Researching, writing and distributing reports focusing on industry areas (reports have focused on furniture manufacturing, ship repair, cogeneration and printing);
- Tidewater Interagency Pollution Prevention Project (TIPPP), a cooperative effort between EPA, the Department of Defense, and NASA; and
- The Amoco/EPA Joint Pollution Prevention Project, a joint multi-media assessment of environmental releases from the Amoco Oil Company's Yorktown refinery.

Virginia has implemented several other laws and programs relating to the concept of pollution prevention. The Secretary of Natural Resources has initiated the Toxics Task Force program, which calls for the voluntary reduction of 37 toxic chemicals by Virginia industry. The 37 chemicals on the list include the 17 chemicals included in the federal 33/50 program, and cover 73 percent of the toxics released in Virginia as reported on the Toxics Release Inventory.[62]

The Center for Environment and Hazardous Materials Studies at Virginia Tech is involved in education efforts to expand pollution prevention. The Center, which receives funds from EPA grants, state grants, the Virginia Environmental Endowment and businesses, emphasizes pollution prevention education. Its activities include introduction of pollution prevention concepts in undergraduate curriculum, workshops and risk communication.

Governor Wilder has instituted the Governor's Environmental Excellence Awards program. Nominees are reviewed on the degree to which their activities address a demonstrable need, are replicable by others, constitute an important innovation, and reflect an on-going commitment to stewardship of the environment. Three of the award winners for 1991, the program's first year, were included for their pollution prevention activities. These winners included Merck & Co. in Elkton, Dana Corporation in Bristol, and Pier IX Terminal Company in Newport News.

The General Assembly has recognized the pollution prevention hierarchy in authorizing the Waste Management Board to promulgate regulations specifying requirements for local and regional solid waste management plans. The regulations are required to "include all aspects of solid waste management including waste reduction, recycling and reuse, storage, treatment, and disposal."[63] The regulations require that the plans identify how minimum recycling rates (10 percent by 1991, 15 percent by 1993, and 25 percent by 1995) will be achieved.

Virginia is a signatory to the 1987 Chesapeake Bay Agreement. The Chesapeake Bay Executive Council has identified four "action steps" defining the direction of the Bay Program, including the adoption of pollution prevention. According to the Program's Action Agenda, industry, agriculture, communities and individual citizens all have roles to play in coordinated programs to reduce pollution at its source. Examples of pollution prevention in the Bay Program include phosphorus reductions, nutrient management plans reducing fertilizer use, water quality protection through land use management, toxics reductions, pesticide management and waste minimization.

VI. JOINT SUBCOMMITTEE DELIBERATIONS

The joint subcommittee held four business meetings and one working session and, during the course of its deliberations, received extensive testimony on a wide range of topics and issues relating to pollution prevention in the Commonwealth. Much of the subcommittee's effort during this first year was devoted to industrial pollution prevention opportunities. The manufacturing community and environmental groups presented recommendations for legislative action that would foster the adoption of pollution prevention measures.

A. Recommendations of Virginia Business

At its second meeting, the joint subcommittee received reports on the implementation of waste reduction efforts by industries in the Commonwealth. The remarks by speakers indicate that many businesses have implemented programs to reduce or eliminate pollution at its source. The growing investment in pollution prevention reflects a recognition that it is a cost-effective alternative to pollution control and disposal approaches.

1. Overview by Virginia Chamber of Commerce

Timothy G. Hayes, Chairman of the Virginia Chamber of Commerce's Natural Resources Committee, noted that companies throughout the United States have for years voluntarily undertaken such pollution-preventing measures as process changes, chemical substitutions, and closed loop recycling in order to improve efficiency and reduce the costs of waste disposal. The passage of the federal Pollution Prevention Act in 1990 evidences a shift from voluntary program implementation toward a more mandatory approach to pollution prevention.

Mr. Hayes cautioned that although pollution prevention may make sense for some companies, for others the cost of retooling or changing their processes may make it unfeasible. Other factors that may make a company's implementation of source reduction activities difficult include the absence of alternatives to existing processes and materials, and the shortage of capital required to revamp its operations.

Consequently, Mr. Hayes urged that any action undertaken by the Commonwealth focus on incentives that will enhance the economic benefits of pollution prevention, without penalizing companies that are unable to afford the costs of such programs. Any initiatives should include input from the business community, and should be coordinated with existing regulatory programs. Mandatory toxics use reduction requirements, he urged, should be avoided except where their economic and technological feasibility has been clearly established. Finally, any programs should be implemented on a schedule that will not cause adverse economic impacts.

2. Implementation by Virginia Industry

Six companies reported to the subcommittee on their pollution prevention programs. Dorothy Bowers of Merck & Co., Inc. urged that any pollution prevention law not impede voluntary reductions. Specifically, in-process recycling methods such as solvent distillation and recovery ought not be discouraged through adoption of a narrow definition of pollution prevention. She applauded New Jersey's program which requires industries to develop a pollution prevention plan, but does not set specific reduction goals or penalize facilities which do not successfully implement their plans.

The trademarks of a good law, according to Ms. Bowers, are a focus on reducing non-product output, relying on voluntary implementation by companies, and building trust and partnerships between government and industry. Waste reduction will not be realized by major technological breakthroughs. Rather, reductions will be discovered by people taking the time to analyze their processes and realizing that, as it has for Merck, pollution prevention pays.

Other companies repeated the theme that money spent on pollution prevention programs has resulted in substantial savings. Presentations were made by the following companies:

- Huntsman Chemical, which has saved $1.2 million at its Chesapeake plant and $5.5 million in all plants. Reducing the waste sent to landfills has saved $346,000 in tipping fees.

- Hoechst Celanese, which set aside $149 million for waste reduction projects at its Narrows, Virginia, plant (and $500 million company-wide). The program has resulted in a 39 percent reduction in emissions of the 17 chemicals covered by SARA Title III through August 1992, with an anticipated reduction of 82 percent by 1996.

- Solite Corporation, based in Ashland, which burns solvents produced by other manufacturers as fuel in its quarries in Buckingham and Pittsylvania Counties, thereby saving energy resources and reducing the amount of hazardous waste that would otherwise need to be treated or disposed.

•Allied Signal, whose program is based on the Chemical Manufacturers Association's Responsible Care Program. Emissions of ammonium sulfate at its Hopewell plant have been cut from 43 million pounds in 1988 to a projected total of 5.2 million pounds in 1992. At its Hopewell plant, Allied has reduced NH3-N discharges by 60 percent. This product is now recovered and upgraded for sale. At its Chesterfield plant, the replacement of certain valves and pumps cut air emissions by 75,000 pounds in 1990. Allied spokesman Lee Brown has written, "Pollution prevention as an operating practice is totally consistent with industry's goals of competitiveness and efficiency. Prevention of product loss through improved operating practice and/or innovative technology represents improved yields and ultimately savings to our customers."[64]

Several speakers cited the emissions reporting requirement of SARA Title III as the impetus for adoption of their pollution prevention programs. The results focused the company's attention on the amounts of waste generated. Because the results are available to the public, many companies reviewed their procedures and established reduction goals in order to improve their corporate image while saving money and improving efficiency.

Following its second meeting, the joint subcommittee toured the Reynolds Metals Company's Bellwood printing facility. Reynolds has successfully converted printing presses from using solvent-based inks to aqueous inks. Cathy Taylor's review of the AWARE ("Avoid Waste and Reduce Emissions) program revealed the depth of the company's commitment to pollution prevention.

Many other Virginia manufacturers who did not make presentations to the subcommittee have made notable waste reduction or pollution prevention efforts. E.I. DuPont De Nemours & Co. instituted programs at its Spruance plant in Richmond that have reduced process waste by over 80 percent while reducing off-specification polymers, recovering most purged ingredients, and reducing manufacturing-related chloroform emissions by 70 percent and tetrachlorethylene solvent emissions by 50 percent. These steps produced savings of several millions of dollars annually while eliminating 3 million pounds per year of solid waste previously shipped to landfills. As a result, the Spruance plant was awarded one of DuPont's two Chairman's Awards in November 1990. It donated $10,000 to the Maymount Foundation to refurbish its public Nature/Environmental Education Center in Richmond.

IBM Corporation has adopted toxics reduction techniques at its Manassas facility, including input substitution, production process modification, process modernization, improved specification and maintenance procedures, and in-process recycling.

Other Virginia facilities with notable accomplishments in incorporating pollution prevention techniques include CR Hudgins Plating, AT&T's circuit board facility in Richmond, Stone Container Corporation, and Aqualon Corporation.

3. VMA Recommendations and Department Response

At the joint subcommittee's second meeting, Carol Raper of the Virginia Manufacturers Association submitted a list of recommendations for incentives to assist the private sector overcome barriers to pollution prevention. A copy of the VMA's "white paper" is attached as Appendix F. The recommendations introduced by Ms. Raper encompassed incentives for all waste minimization efforts. Specific proposals for economic incentives include:

- Investment tax credits in an amount equal to a percentage of a business' investment in a pollution prevention project;

- Rapid depreciation of the cost of real and personal property used in a pollution prevention project;

- Sales and use tax exemptions for personal property, to the extent it is not already exempt as manufacturing equipment;

- An expanded exemption for certified pollution control equipment from local property taxes for real and personal property used for pollution prevention projects; and

- State loans and grants for the development and implementation of pilot projects.

Non-economic incentives proposed by the VMA include education and technical assistance programs; free pollution prevention audits to assist businesses implement pollution prevention technologies; regulatory flexibility by state agencies in environmental permitting; developing a pilot program for waste separation by localities; promoting "waste to fuel" projects; expanding the Governor's Award Program; establishing an ad hoc industry advisory group; and encouraging the Center for Innovative Technology to develop innovative approaches.

Due to the state of the Commonwealth's economy, the VMA requested that the joint subcommittee give special consideration to five recommendations: (i) sales and property tax exemptions for pollution prevention; (ii) regulatory flexibility; (iii) promoting waste to fuel activities; (iv) expanding the Governor's Award Program; and (v) developing technical advisory groups from the regulated community.

At the recommendation of the chairman of the joint subcommittee, Harry I. Gregori and Sharon Kenneally-Baxter of the Department of Waste Management presented an analysis of the recommendations offered by the VMA (see Appendix F) at the third meeting, for economic and non-economic incentives to assist the private sector in overcoming existing barriers to the implementation of pollution prevention activities. A copy of the Department's Study Paper is attached as Appendix G.

With regard to the economic incentives, they made no recommendations because of the difficulty of quantifying their fiscal impact. Ms. Kenneally-Baxter referred to a 1985 study prepared for California suggesting

that effective tax benefit programs must set allowances as high as 50 percent in order to affect investment decisions. She cautioned that providing tax incentives for equipment purchases rather than for emissions reductions achieved might prompt firms to invest in equipment changes rather than such alternative methods of waste reduction as process changes, feedstock substitution, or product reformulation.

Calculating the fiscal impact of any sales or use tax exemption for pollution prevention projects may be difficult. Such an exemption would at least partially overlap with the exemption for industrial materials, machinery and tools used directly in manufacturing. Unlike the exemption for certified pollution control equipment, however, machinery and tools used in a pollution prevention project would not automatically be exempt from local property taxation. The fiscal impact of tax exemptions for pollution prevention projects will depend on the definitions adopted. Unlike clearly identifiable scrubbers and other pollution control equipment, there is no clearly established category of pollution prevention projects. For example, if a company elects to close an old, inefficient plan that generates many fugitive emissions and build a new, more productive and less-polluting factory in its place, questions could arise involving whether certain portions of the new plan would be eligible for tax credits or exemptions.

Despite these difficulties, Mr. Gregori voiced support for tax incentives for pollution prevention in order to place waste reduction on the same footing as the pollution control approach. Providing tax exemptions only for certified pollution control equipment skews decision-making inappropriately by inducing factory operators to use control equipment rather than adopting waste reduction strategies. He recommended that favorable tax treatment be tied to the amount of waste reduced rather than on the price of the equipment used.

Several of the non-economic incentives identified by VMA are already in place, albeit on a limited basis, in the Commonwealth. The existing Waste Reduction Assistance Program conducts seminars and conferences, some of which are aimed at specific industries such as ship repair and furniture making. A continued and expanded education and technical assistance program will require increased program resources. Waste audits, or on-site technical assistance, could be expanded through a combination of additional full-time staff, students, and retired engineers.

The VMA proposal suggests that regulatory flexibility offers much promise in overcoming barriers to implementation of pollution prevention activities. Mr. Gregori noted that regulatory flexibility can only be implemented by state environmental agencies to the extent allowed by federal regulations. Regulatory integration of pollution prevention could be implemented through the use of multi-media permits, and by incorporating pollution prevention into facility inspections, enforcement settlement agreements, and regulations.

The "Pollution Prevention Partnership" concept was offered as one approach to building cooperation and consensus for the development of these

types of regulatory integration. The Pollution Prevention Partnership would be an alliance of state government leadership, industry, public interest groups, and government regulatory programs. The efforts of the Partnership would focus on research and development of technologies to reduce the toxicity and volume of chemical inputs in industry, the development of on-site waste control programs as an alternative to off-site management, and facility siting programs consistent with Virginia's Capacity Assurance Plan.

The Department also offered the following recommendations based on the VMA proposals:

- Encouraging demonstration source reduction programs for business, local government and households at the local government or planning district level;
- Increasing the prominence of pollution prevention in the Governor's Environmental Excellence Awards Program;
- Reestablishing the Waste Minimization Advisory Committee as a technical advisory committee to explore such issues as regulatory flexibility and the use of innovative technology; and
- Encouraging and expanding pollution prevention research within the state government, industry and universities.

B. Recommendations of Environmental Groups

The third meeting of the joint subcommittee featured presentations by the Chesapeake Bay Foundation, the Environmental Defense Fund, and the Center for Policy Alternatives. Each group offered suggestions for the adoption of a pollution prevention program.

1. Chesapeake Bay Foundation

Joseph Maroon, Virginia Executive Director of the Chesapeake Bay Foundation, urged the subcommittee to institutionalize pollution prevention in Virginia. He reminded the listeners that the regional Chesapeake Bay Program recognized the benefits of pollution prevention in 1991 when Governor Wilder and his counterparts adopted a statement that it should be the preferred first step in the hierarchy of environmental protection measures. A shift in emphasis from pollution control to actual prevention is appropriate because after twenty years of regulation, Virginia still produces significant quantities of toxic pollutants. Over 103 million pounds of the chemicals reported on the Toxics Release Inventory were released or transferred in Virginia in 1990. Mr. Maroon cited a recent ranking of states by the Green Index which placed Virginia fiftieth in the nation in nerve-damaging toxics released on a per capita basis, forty-ninth in pounds of toxics released to surface water, and forty-sixth in pounds of toxics released by industry to the air.[65] A copy of the Chesapeake Bay Foundation's presentation is attached as Appendix H.

Ann Powers, Vice President and General Counsel of the Chesapeake Bay Foundation, noted that a pollution prevention approach can help U.S. industries be more competitive. Compared to the United States, Japan produces one fifth, and European countries produce one half, of the waste per dollar of goods produced.

In order to take advantage of the benefits offered by pollution prevention activities, the Foundation offered the following recommendations:

- Adopt a statutory definition of "pollution prevention" that focuses on source reduction, substitution, and elimination of pollutants;
- Establish a target goal of a 50 percent decrease over four years in the use and release of toxic substances;
- Incorporate facility planning into Virginia's pollution prevention initiative;
- Include methods to measure actual reductions in the use or release of pollutants;
- Establish an assistance unit within state government and/or at universities to assist small business;
- Review the implementation plan for the new Department of Environmental Quality to ensure that a separate pollution prevention unit, with overarching responsibility for implementing and promoting pollution prevention activities for all state agencies and their clients, is created; and
- Continue the joint subcommittee next year in order to devote further study to pollution prevention opportunities.

2. Environmental Defense Fund

Nikki Roy of the Environmental Defense Fund stressed that there is no "silver bullet" to promote pollution prevention; rather, a comprehensive approach is appropriate. A comprehensive program would include a facility planning requirement that encompasses the 620 chemicals covered by CERCLA. Planning should address the use, as well as releases, of toxic chemicals. The U.S. Public Interest Research Group submitted a statement, a copy of which is attached as Appendix I, echoing Mr. Roy's position that toxics use reduction should be the preferred pollution prevention strategy.

Mr. Roy voiced support for a facility planning program which focuses on providing structured technical assistance. He added that it is preferable to give industries as much flexibility in preparing plans as possible. A comprehensive program should also include the use of pollution prevention measures as optional remedies in environmental enforcement actions and the provision of technical assistance to businesses.

3. Center for Policy Alternatives

The Center for Policy Alternatives in Washington, D.C., provided the final speaker at the meeting. Richard Regan summarized his organization's 1991 rating of ten state pollution prevention laws. Features of pollution prevention programs favored by Mr. Regan include requirements for annual accounting of use of toxic chemicals, worker and community involvement, and program funding through dedicated fees or taxes on the use of toxics. A program should also require facility planning and provide technical assistance to industry. Finally, he advocated setting a statewide goal of a percentage reduction in the use and release of toxics.

C. Options Considered by the Joint Subcommittee

At the close of the joint subcommittee's November meeting, the chairman requested members and other interested persons to submit proposals for increasing pollution prevention in the Commonwealth. Ideas for legislation were submitted by the Virginia Manufacturers Association and the Chesapeake Bay Foundation. In addition, the chairman directed staff to prepare several pieces of legislation for discussion.

1. VMA Proposals

The Virginia Manufacturers Association expressed support for a pollution prevention program which provides for voluntary participation, on-site technical assistance, and financial assistance. A copy of a VMA's list of recommendations, dated December 16, 1992, is attached as Appendix J. The first recommendation would allow violators of environmental laws to use up to 50 percent of any civil charge that would currently be paid into the Environmental Emergency Response Fund for authorized pollution prevention projects. If the violator chose not to use a portion of the civil charge for such a project, half of the civil charge would be paid into a new Pollution Prevention Fund to pay for information and technical assistance to businesses in evaluating and implementing pollution prevention opportunities.

Second, the Air Pollution Control Board, Waste Management Board, and Water Control Board should be required to construe their regulatory authority to approve compliance alternatives that result in the prevention or reduction of pollution while affording an equal level of environmental protection. The burden would be on the Board to justify reasons for denial of an alternative strategy or approach.

Third, the existing sales tax and property tax exemptions for certified pollution control equipment should be amended to include equipment and facilities which reduce pollutants entering the environment. This recommendation is similar to the exemption suggested by the CBF.

The fourth recommendation calls for a change in the way the unused portions of the state ceiling for tax-exempt private activity bonds are allocated at the end of each year. Currently, allocations not spoken for are carried forward for use by the Virginia Housing and Development Authority. The proposed change would allow portions of the ceiling not allocated by November 1 of each year to be used for pollution control facilities, such as private solid waste disposal facilities, wastewater treatment and other facilities for the treatment and disposal of waste.

The VMA also called for modifying the Governor's Environmental Excellence Awards Program to highlight pollution prevention efforts and to give the awards a higher public profile.

Finally, the VMA urged that the subcommittee not adopt a definition of pollution prevention. Carol Raper of the VMA suggested that defining pollution prevention may exclude some environmentally beneficial activities, such as out-of-process recycling, and that all such activities should be promoted.

2. CBF Proposals

The Chesapeake Bay Foundation asked that, whether or not legislation is recommended by the joint subcommittee, the study be continued for another year to study the full range of economic incentives and additional opportunities for pollution prevention. A copy of the Foundation's recommendations, dated December 8, 1992, is attached as Appendix K. Specific proposals include:

- Adopting a definition of pollution prevention focusing on reductions in the use and release of hazardous or toxic substances.

- Establishment of a statewide, numerical target goal for reductions in the use and release of toxic substances within an established time frame.

- Requiring all facilities covered by RCRA or filing reports under Title III of SARA to prepare and submit pollution prevention plans, and to file annual reports. This would cover about 1,350 facilities.

- Measuring actual reductions in the use and release of toxics, and reporting the findings to the General Assembly.

- Establishing a technical assistance unit to assist small and medium-sized businesses with pollution prevention strategies and facility planning.

- Amending the existing sales tax exemption for certified pollution control facilities to include pollution prevention measures.

- Establishing a Pollution Prevention Fund, with a stable funding source, for state assistance to small and medium-sized businesses.

3. Additional Proposals

The subcommittee was also presented with a package of six bills and two resolutions drafted at the request of the chairman covering a range of voluntary pollution prevention measures. One bill would establish a pollution prevention program within the Department of Waste Management. The bill would establish a state policy adopting a waste management hierarchy favoring pollution prevention over waste recycling, treatment and disposal. The program would also establish an assistance program, set up advisory panels, promote pollution prevention in the regulatory process, allow the development of pilot projects, establish an industrial waste exchange, and establish a grant program.

Three bills would create financial incentives for pollution prevention activities by granting a sales and use tax exemption similar to the existing exemption for certified recycling equipment, facilities and devices, granting a 10 percent tax credit for pollution-preventing machinery and equipment, and establishing a revolving loan fund.

A funding mechanism for the program would be established by a bill requiring that 25 percent of civil penalties and charges paid into the Environmental Emergency Response Fund be used for the activities of the pollution prevention program. Finally, a bill was offered which would grant facilities which submit comprehensive, approved pollution prevention plans certain regulatory incentives, including expedited permit review and cooperation with requests for variances from environmental regulations.

One of the resolutions would request the Department of Waste Management to convene a committee of representatives from government, industry and environmental organizations to consider and provide recommendations for the promotion of pollution prevention activities. The second resolution would continue the study established pursuant to SJR 103 for an additional year.

VII. FINDINGS AND RECOMMENDATIONS

The joint subcommittee held a work session on January 7, 1993, to discuss the proposal presented at the previous business meeting. At the chairman's request, the Virginia Manufacturers Association and Chesapeake Bay Foundation had submitted comments on the recommendations offered at the December meeting. Copies of the comments from the VMA and CBF, both dated December 31, 1992, are attached as Appendix L and Appendix M, respectively.

The VMA's response focused on areas in which there was agreement with other proposals. Specific areas of agreement included tax exemptions, tax credits, a fund to assist pollution prevention activities, increasing the visibility of the Governor's Award for Environmental Excellence, and a continuation of the SJR 103 study.

The comments of the Chesapeake Bay Foundation focused on three general themes. First, a pollution prevention program should focus on eliminating the use, and not only the generation of release, of toxic substances. Second, a program should address toxic substances rather than the broader concept of environmental waste. Third, any proposal should include statewide use and release reduction target goals. The CBF also voiced support for facility planning as the cornerstone of any program, a technical assistance program, and a continuation of the study.

The deliberations of the joint subcommittee produced three pieces of legislation introduced by the chairman during the 1993 Session. Senate Bill 650 (Appendix N) established a pollution prevention program. Senate Bill 570 (Appendix O) provided tax exemptions for pollution prevention facilities. Senate Joint Resolution 207 (Appendix P) continued the legislative study of pollution prevention for a year. A discussion of the individual finding and recommendations follows. The recommendations include references to the applicable sections of the proposed legislation.

A. Pollution Prevention Program

The subcommittee endorsed legislation establishing a pollution prevention program. The program should expand the efforts of the Waste Reduction Assistance Program now operating within the Department of Waste Management. Codifying the existing program will enhance the visibility of pollution prevention and help ensure the program's continuation. The Department of Environmental Quality will assume the responsibilities of the Department of Waste Management when the DEQ comes into existence on April 1, 1993. Secretary Haskell noted that the DEQ would be willing to commit up to 10 people to pollution prevention programs.

> Recommendation 1: Legislation creating a pollution prevention program should be introduced in the 1993 Session. (§§ 10.1-1425.10 through 10.1-1425.18, Senate Bill 650)

The pollution prevention legislation should include a definition of pollution prevention which focuses on eliminating or reducing the use, generation and release of environmental waste at the source. If the program will focus on voluntary efforts and technical assistance to all waste generators, the use of the broad term "environmental waste" is preferable to limiting the program's applicability only to toxic or hazardous materials. Environmental waste includes any contaminant, pollutant, waste discharge or emission.

> Recommendation 2: Legislation should define pollution prevention to include eliminating the use, as well as the generation or release at the source, of environmental waste. (§ 10.1-1425.10)

A policy of the Commonwealth favoring source reduction over recycling, treatment, and disposal should be enunciated in pollution prevention legislation. This waste management hierarchy, which has been adopted by

many other states and the federal Pollution Prevention Act, recognizes the inherent benefits of pollution prevention. The policy statement should also address cross-media transfers of environmental waste.

> Recommendation 3: Legislation should include a policy statement favoring pollution prevention and source reduction. (§ 10.1-1425.11)

The subcommittee did not favor creating a separate pollution prevention office within the Department of Waste Management. The pollution prevention legislation should require the establishment of an assistance program designed to assist all persons in reducing the amount and toxicity of waste generated. The legislation should not list the types of technical and education assistance that the program may provide.

> Recommendation 4: Legislation should establish a program to provide assistance to businesses and local governments in pollution prevention efforts. (§ 10.1-1425.12)

All participants agreed that a successful pollution prevention program will require the input of members of the regulated community. The Pollution Prevention Partners concept, as set forth in a resolution drafted by staff, was rejected in lieu of legislation authorizing the Department to create advisory panels. Panels may be created for different industries or areas of interest, and will include members from a variety of groups.

> Recommendation 5: Legislation should authorize the Department of Waste Management to establish pollution prevention advisory panels. (§ 10.1-1425.13)

The subcommittee endorsed legislation authorizing the Department to (i) sponsor pilot projects to develop and demonstrate innovative pollution prevention methods and technologies, and (ii) make grants to assist in the identification of pollution prevention opportunities and studying specific technologies and methods. State funding for pilot projects and grant programs is not provided. Nevertheless, authorizing the Department to conduct such programs may expedite their implementation if federal grants are made available. Legislation should not include criteria for awarding grants.

> Recommendation 6: Legislation should authorize the Department of Waste Management to sponsor pilot projects for innovative technologies. (§ 10.1-1425.14)

> Recommendation 7: Legislation should authorize the Department of Waste Management to make pollution prevention grants to persons who use, generate or release environmental waste. (§ 10.1-1425.18)

After some discussion, the members of the joint subcommittee endorsed a proposal authorizing the Department to establish an industrial waste

exchange. The sentiment was expressed that a waste exchange is not consistent with the pollution prevention concept because it relies on the use and generation of waste by-products. Most members believed that a waste exchange is a valuable component of any voluntary program, however, because it would introduce users to pollution prevention. A waste exchange may be funded by charging participants a subscription fee.

> Recommendation 8: Legislation should authorize the Department of Waste Management to establish an industrial environmental waste materials exchange. (§ 10.1-1425.15)

The subcommittee recognized that the protection of trade secrets would encourage participation by private business. After some discussion, the decision was made not to define a trade secret. Where disclosure of information acquired pursuant to the pollution prevention law is required by law, however, the Department is not bound to keep it confidential.

> Recommendation 9: Legislation should require the Department to protect the confidentiality of trade secrets unless disclosure is required by law or the information is a matter of public record. (§ 10.1-1425.16)

Requiring the Department to submit annual reports to the Governor and the legislature on its pollution prevention activities was recognized as a valuable tool for heightening awareness of the program.

> Recommendation 10: The Department of Waste Management should submit an annual evaluation report on pollution prevention activities to the Governor and General Assembly. (§ 10.1-1425.17)

The joint subcommittee rejected a proposal to place the Governor's Award for Environmental Excellence, or a similar program focusing on pollution prevention, in statute. Another proposal which was not adopted would have provided for voluntary facility planning. Proponents of facility planning believe that industries should recognize that facility plans are valuable tools in recognizing source reduction opportunities. However, some speakers were concerned that any provision allowing facility planning would lead to state mandates. Some concern was expressed that the administrative costs of reviewing facility plans had not been developed, and that the regulatory incentives to be offered to companies that voluntarily prepared facility plans had not been sufficiently discussed.

The members of the joint subcommittee discussed options for providing a funding source for the pollution prevention program. The subcommittee did not accept proposals that would have diverted a portion of the civil charges or penalties currently paid into the Virginia Environmental Emergency Response Fund to finance the program.

B. Financial Incentives

The issue of providing financial incentives for companies to implement pollution prevention through tax exemptions generated more debate than any other topic. Several members expressed reservations that it was premature to endorse tax breaks because their fiscal impact on state and local treasuries had not been ascertained. Other members argued that it was not proper to grant tax incentives for pollution prevention activities without tying the economic benefit received to the environmental benefit produced. It was suggested that tax incentives be tied to the preparation of approved facility plans.

Proponents of tax incentives countered that much of the testimony received by the joint subcommittee stressed the need to create incentives and remove barriers to the implementation of pollution prevention activities. The cost of adopting pollution prevention has been cited as a barrier. Members were reminded that a sales tax exemption (and local option property tax exemption) is available for certain pollution control equipment, and a similar tax exemption is necessary for pollution prevention facilities in order to "level the playing field."

The joint subcommittee reached a consensus that pollution prevention expenditures should be eligible for tax exemptions to the same extent that pollution control equipment is eligible for tax exemptions, as provided in current § 58.1-3660. A majority of the members of the joint subcommittee favored an approach suggested by the VMA that would expand the definition of "certified pollution control equipment and facilities" over creating a new exemption for "certified pollution prevention equipment, facilities and devices." The definition of certified pollution control equipment and facilities would include any equipment or facilities, whether voluntarily acquired or acquired in conformity with state requirement, which is certified by the State Water Control Board, State Air Pollution Control Board, or Virginia Waste Management Board as materially reducing both the amount of pollutants released prior to recycling, treatment or disposal, and the hazards to public health or the environment associated with such releases. Each of the Board would be required to promulgate regulations establishing criteria and procedures for making certifications that equipment or facilities materially reduce the amount of, and hazards associated with, a release of pollutants or contaminants.

> Recommendation 11: The existing sales and use tax exemption, and optional property tax exemption, for certified pollution control equipment and facilities should be expanded to include any equipment or facilities which are certified by an environmental board as materially reducing the amount and the hazards of pollutants released. (Senate Bill 570)

Other financial incentives suggested or discussed by the joint subcommittee were not endorsed. Among the options rejected or not taken up by the joint subcommittee were (i) an income tax credit for 10 percent of the cost of purchasing and installing certain pollution prevention machinery and

equipment and (ii) a pollution prevention revolving fund, that would finance loans to businesses for pollution prevention activities.

Several members of the joint subcommittee dissented or abstained on the issue of introducing the tax incentive legislation. A copy of the comments of Georgia Herbert is attached as Appendix Q.

C. Continuation of Study

The joint subcommittee's first year of deliberations focused on pollution prevention in the context of industrial manufacturing. Due to the breadth and complexity of the issues involved, the subcommittee did not adequately study barriers to and opportunities for pollution prevention in other economic sectors, including agriculture, mining, and government. In addition, further study of economic incentives may be necessary.

> Recommendation 12: The study established pursuant to SJR 103 should be continued for another year.

VIII. CONCLUSION

This report summarizes the activities of the joint subcommittee through its meeting on January 7, 1993. The 1993 Session of the General Assembly passed SJR 207 (Appendix P), which continues the joint subcommittee for an additional year.

During the 1993 Session, Senate Bill 570 (Appendix O), which created tax exemptions for pollution prevention-related property, was bottled up in the Senate Finance Committee. The other piece of legislation endorsed by the joint subcommittee, Senate Bill 650 (Appendix N), was passed by both houses of the legislature after being amended in committee.

The members of the joint subcommittee believe that pollution prevention provides a multitude of opportunities for business and environmental interests to work together in order to achieve compatible objectives of environmental protection and economic growth. The members of the joint

subcommittee are grateful to all individuals and organizations who assisted them in their deliberations, and look forward to continuing their activities in 1993.

Respectfully submitted,

R. Edward Houck, Chairman
Gladys B. Keating, Vice Chairman
Frederick M. Quayle
Janet D. Howell
Kenneth R. Plum
Whittington W. Clement
Phillip A. Hamilton
Elizabeth H. Haskell*
James C. McKean*
Michael J. Campilongo
Georgia H. Herbert**
Jolene E. Chinchilli*

* Elizabeth H. Haskell, James C. McKean, and Jolene E. Chinchilli abstain from endorsing Recommendation 11 (tax exemption).

** Georgia H. Herbert dissents with respect to Recommendation 11 (tax exemption).

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1992 SESSION

LD4303685

SENATE JOINT RESOLUTION NO. 103

AMENDMENT IN THE NATURE OF A SUBSTITUTE

(Proposed by the House Committee on Rules
on February 27, 1992)

(Patron Prior to Substitute—Senator Houck)

Establishing a joint subcommittee on pollution prevention.

WHEREAS, economic and ecological concerns are inherently interlocked; and

WHEREAS, in the long term, it is more economical to prevent pollution than to clean it up; and

WHEREAS, pollution prevention is avoiding or eliminating the generation of pollutants at the source; and

WHEREAS, current pollution control laws focus on managing the treatment and disposal or release of pollutants rather than on eliminating or preventing their generation; and

WHEREAS, pollution prevention activities can reduce the need for expensive treatment and disposal technologies, reduce production, compliance and liability costs, and increase efficiency and competitiveness; and

WHEREAS, pollution prevention can provide environmental benefits by addressing pollution from dispersed sources and eliminating efforts to control pollution by transferring pollutants from one environmental medium to another; and

WHEREAS, states and local governments can create incentives to make pollution prevention the preferred form of action for waste producers, including consumers; and

WHEREAS, incentives for pollution prevention need to take into account the economic structure and environmental circumstances unique to the Commonwealth; and

WHEREAS, opportunities for pollution prevention are often not realized by smaller businesses because of limited access to necessary financial and technical resources; and

WHEREAS, information, education, and technical assistance are needed to overcome institutional barriers to pollution prevention in both the public and private sectors; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That a joint subcommittee be hereby established to (i) identify and evaluate potential incentives for the adoption of pollution prevention initiatives, (ii) assess the current range of pollution prevention activities in the Commonwealth, and (iii) identify and evaluate methods for increasing the availability of pertinent education and technical assistance.

The joint subcommittee shall consist of 12 members as follows: three members of the Senate to be appointed by the Senate Committee on Privileges and Elections; four members of the House of Delegates to be appointed by the Speaker of the House; the Secretary of Natural Resources or her designee; the Secretary of Economic Development or his designee; and three citizen members with relevant experience to be appointed by the Governor: one representing business and industry, one representing environmental organizations and one representing local government.

All agencies and institutions of the Commonwealth shall provide assistance, upon request, as the joint subcommittee may deem appropriate.

The joint subcommittee shall complete its work in time to submit its findings and recommendations to the Governor and the 1993 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for processing legislative documents.

The indirect costs of this study are estimated to be $10,860; the direct costs of this study shall not exceed $8,640.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

Official Use By Clerks	
Agreed to By The Senate	**Agreed to By The House of Delegates**
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
Clerk of the Senate	Clerk of the House of Delegates

SECTION 1. SHORT TITLE AND TABLE OF CONTENTS.

This Act may be cited as the ``Pollution Prevention Act of 1990

TABLE OF CONTENTS

SEC. 2. FINDINGS AND POLICY.

(a) FINDINGS.--The Congress finds that:

(1) The United States of America annually produces millions of tons of pollution and spends tens of billions of dollars per year controlling this pollution.

(2) There are significant opportunities for industry to reduce or prevent pollution at the source through cost-effective changes in production, operation, and raw materials use. Such changes offer industry substantial savings in reduced raw material, pollution control, and liability costs as well as help protect the environment and reduce risks to worker health and safety.

(3) The opportunities for source reduction are often

not realized because existing regulations, and the industrial resources they require for compliance, focus upon treatment and disposal, rather than source reduction; existing regulations do not emphasize multi-media management of pollution; and businesses need information and technical assistance to overcome institutional barriers to the adoption of source reduction practices.

(4) Source reduction is fundamentally different and more desirable than waste management and pollution control. The Environmental Protection Agency needs to address the historical lack of attention to source reduction.

(5) As a first step in preventing pollution through source reduction, the Environmental Protection Agency must establish a source reduction program which collects and disseminates information, provides financial assistance to States, and implements the other activities provided for in this Act.

(b) POLICY.--The Congress hereby declares it to be the national policy of the United States that pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an

environmentally safe manner whenever feasible; and disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner.

SEC. 3. DEFINITIONS.

For purposes of this Act--

(1) The term ``Administrator'' means the Administrator of the Environmental Protection Agency.

(2) The term ``Agency'' means the Environmental Protection Agency.

(3) The term ``toxic chemical'' means any substance on the list described in section 313(c) of the Superfund Amendments and Reauthorization Act of 1986.

(4) The term ``release'' has the same meaning as provided by section 329(8) of the Superfund Amendments and Reauthorization Act of 1986.

(5)(A) The term ``source reduction'' means any practice which--

(i) reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and

(ii) reduces the hazards to public health and the environment associated with the release of such

substances, pollutants, or contaminants. The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.

(B) The term ``source reduction'' does not include any practice which alters the physical, chemical, or biological characteristics or the volume of a hazardous substance, pollutant, or contaminant through a process or activity which itself is not integral to and necessary for the production of a product or the providing of a service.

(6) The term ``multi-media'' means water, air, and land.

(7) The term ``SIC codes'' refers to the 2-digit code numbers used for classification of economic activity in the Standard Industrial Classification Manual.

SEC. 4. EPA ACTIVITIES.

(a) AUTHORITIES.--The Administrator shall establish in the Agency an office to carry out the functions of the Administrator under this Act. The office shall be independent of the Agency's single-medium program offices but shall have the authority to review and advise such offices on their activities to promote a multi-media approach to source

reduction. The office shall be under the direction of such officer of the Agency as the Administrator shall designate.

(b) FUNCTIONS.--The Administrator shall develop and implement a strategy to promote source reduction. As part of the strategy, the Administrator shall--

(1) establish standard methods of measurement of source reduction;

(2) ensure that the Agency considers the effect of its existing and proposed programs on source reduction efforts and shall review regulations of the Agency prior and subsequent to their proposal to determine their effect on source reduction;

(3) coordinate source reduction activities in each Agency Office and coordinate with appropriate offices to promote source reduction practices in other Federal agencies, and generic research and development on techniques and processes which have broad applicability;

(4) develop improved methods of coordinating, and assuring public access to data collected under Federal environmental statutes;

(5) facilitate the adoption of source reduction techniques by businesses. This strategy shall include the use of the Source Reduction Clearinghouse and State matching grants provided in this Act to foster the exchange of information regarding source reduction

techniques, the dissemination of such information to businesses, and the provision of technical assistance to businesses. The strategy shall also consider the capabilities of various businesses to make use of source reduction techniques;

(6) identify, where appropriate, measurable goals which reflect the policy of this Act, the tasks necessary to achieve the goals, dates at which the principal tasks are to be accomplished, required resources, organizational responsibilities, and the means by which progress in meeting the goals will be measured;

(7) establish an advisory panel of technical experts comprised of representatives from industry, the States, and public interest groups, to advise the Administrator on ways to improve collection and dissemination of data;

(8) establish a training program on multimedia source reduction opportunities, including workshops and guidance documents, for State and Federal permit issuance, enforcement, and inspection officials working within all agency program offices.

(9) identify and make recommendations to Congress to eliminate barriers to source reduction including the use of incentives and disincentives;

(10) identify opportunities to use Federal procurement to encourage source reduction;

(11) develop, test and disseminate model source reduction auditing procedures designed to highlight source reduction opportunities; and

(12) establish an annual award program to recognize a company or companies which operate outstanding or innovative source reduction programs.

SEC. 5. GRANTS TO STATES FOR STATE TECHNICAL ASSISTANCE PROGRAMS.

(a) GENERAL AUTHORITY.--The Administrator shall make matching grants to States for programs to promote the use of source reduction techniques by businesses.

(b) CRITERIA.--When evaluating the requests for grants under this section, the Administrator shall consider, among other things, whether the proposed State program would accomplish the following:

(1) Make specific technical assistance available to businesses seeking information about source reduction opportunities, including funding for experts to provide onsite technical advice to business seeking assistance and to assist in the development of source reduction plans.

(2) Target assistance to businesses for whom lack of information is an impediment to source reduction.

(3) Provide training in source reduction techniques. Such training may be provided through local engineering

schools or any other appropriate means.

(c) MATCHING FUNDS.--Federal funds used in any State program under this section shall provide no more than 50 per centum of the funds made available to a State in each year of that State's participation in the program.

(d) EFFECTIVENESS.--The Administrator shall establish appropriate means for measuring the effectiveness of the State grants made under this section in promoting the use of source reduction techniques by businesses.

(e) INFORMATION.--States receiving grants under this section shall make information generated under the grants available to the Administrator.

SEC. 6. SOURCE REDUCTION CLEARINGHOUSE.

(a) AUTHORITY.--The Administrator shall establish a Source Reduction Clearinghouse to compile information including a computer data base which contains information on management, technical, and operational approaches to source reduction. The Administrator shall use the clearinghouse to--

(1) serve as a center for source reduction technology transfer;

(2) mount active outreach and education programs by the States to further the adoption of source reduction technologies; and

(3) collect and compile information reported by States receiving grants under section 5 on the operation

and success of State source reduction programs.

(b) PUBLIC AVAILABILITY.--The Administrator shall make available to the public such information on source reduction as is gathered pursuant to this Act and such other pertinent information and analysis regarding source reduction as may be available to the Administrator. The data base shall permit entry and retrieval of information to any person.

SEC. 7. SOURCE REDUCTION AND RECYCLING DATA COLLECTION.

(a) REPORTING REQUIREMENTS.--Each owner or operator of a facility required to file an annual toxic chemical release form under section 313 of the Superfund Amendments and Reauthorization Act of 1986 (``SARA'') for any toxic chemical shall include with each such annual filing a toxic chemical source reduction and recycling report for the preceeding calendar year. The toxic chemical source reduction and recycling report shall cover each toxic chemical required to be reported in the annual toxic chemical release form filed by the owner or operator under section 313(c) of that Act. This section shall take effect with the annual report filed under section 313 for the first full calendar year beginning after the enactment of this Act.

(b) ITEMS INCLUDED IN REPORT.--The toxic chemical source reduction and recycling report required under subsection (a) shall set forth each of the following on a facility-by-facility basis for each toxic chemical:

(1) The quantity of the chemical entering any waste stream (or otherwise released into the environment) prior to recycling, treatment, or disposal during the calendar year for which the report is filed and the percentage change from the previous year. The quantity reported shall not include any amount reported under paragraph (7). When actual measurements of the quantity of a toxic chemical entering the waste streams are not readily available, reasonable estimates should be made based on best engineering judgment.

(2) The amount of the chemical from the facility which is recycled (at the facility or elsewhere) during such calendar year, the percentage change from the previous year, and the process of recycling used.

(3) The source reduction practices used with respect to that chemical during such year at the facility. Such practices shall be reported in accordance with the following categories unless the Administrator finds other categories to be more appropriate:

(A) Equipment, technology, process, or procedure modifications.

(B) Reformulation or redesign of products.

(C) Substitution of raw materials.

(D) Improvement in management, training, inventory control, materials handling, or other

general operational phases of industrial facilities.

(4) The amount expected to be reported under paragraph (1) and (2) for the two calendar years immediately following the calendar year for which the report is filed. Such amount shall be expressed as a percentage change from the amount reported in paragraphs (1) and (2).

(5) A ratio of production in the reporting year to production in the previous year. The ratio should be calculated to most closely reflect all activities involving the toxic chemical. In specific industrial classifications subject to this section, where a feedstock or some variable other than production is the primary influence on waste characteristics or volumes, the report may provide an index based on that primary variable for each toxic chemical. The Administrator is encouraged to develop production indexes to accommodate individual industries for use on a voluntary basis.

(6) The techniques which were used to identify source reduction opportunities. Techniques listed should include, but are not limited to, employee recommendations, external and internal audits, participative team management, and material balance audits. Each type of source reduction listed under paragraph (3) should be associated with the techniques or

multiples of techniques used to identify the source reduction technique.

(7) The amount of any toxic chemical released into the environment which resulted from a catastrophic event, remedial action, or other one-time event and is not associated with production processes during the reporting year.

(8) The amount of the chemical from the facility which is treated (at the facility or elsewhere) during such calendar year and the percentage change from the previous year.

For the first year of reporting under this subsection, comparison with the previous year is required only to the extent such information is available.

(c) SARA PROVISIONS.--The provisions of sections 322, 325(c), and 326 of the Superfund Amendments and Reauthorization Act of 1986 shall apply to the reporting requirements of this section in the same manner as to the reports required under section 313 of that Act. The Administrator may modify the form required for purposes of reporting information under section 313 of that Act to the extent he deems necessary to include the additional information required under this section.

(d) ADDITIONAL OPTIONAL INFORMATION.--Any person filing a report under this section for any year may include with the

report additional information regarding source reduction, recycling, and other pollution control techniques in earlier years.

(e) AVAILABILITY OF DATA.--Subject to section 322 of the Superfund Amendments and Reauthorization Act of 1986, the Administrator shall make data collected under this section publicly available in the same manner as the data collected under section 313 of the Superfund Amendments and Reauthorization Act of 1986.

SEC. 8. EPA REPORT.

(a) BIENNIAL REPORTS.--The Administrator shall provide Congress with a report within eighteen months after enactment of this Act and biennially thereafter, containing a detailed description of the actions taken to implement the strategy to promote source reduction developed under section 4(b) and of the results of such actions. The report shall include an assessment of the effectiveness of the clearinghouse and grant program established under this Act in promoting the goals of the strategy, and shall evaluate data gaps and data

duplication with respect to data collected under Federal environmental statutes.

(b) SUBSEQUENT REPORTS.--Each biennial report submitted under subsection (a) after the first report shall contain each of the following:

(1) An analysis of the data collected under section 7 on an industry-by-industry basis for not less than five SIC codes or other categories as the Administrator deems appropriate. The analysis shall begin with those SIC codes or other categories of facilities which generate the largest quantities of toxic chemical waste. The analysis shall include an evaluation of trends in source reduction by industry, firm size, production, or other useful means. Each such subsequent report shall cover five SIC codes or other categories which were not covered in a prior report until all SIC codes or other categories have been covered.

(2) An analysis of the usefulness and validity of the data collected under section 7 for measuring trends in source reduction and the adoption of source reduction by business.

(3) Identification of regulatory and nonregulatory barriers to source reduction, and of opportunities for using existing regulatory programs, and incentives and disincentives to promote and assist source reduction.

(4) Identification of industries and pollutants that require priority assistance in multi-media source reduction.

(5) Recommendations as to incentives needed to encourage investment and research and development in source reduction.

(6) Identification of opportunities and development of priorities for research and development in source reduction methods and techniques.

(7) An evaluation of the cost and technical feasibility, by industry and processes, of source reduction opportunities and current activities and an identification of any industries for which there are significant barriers to source reduction with an analysis of the basis of this identification.

(8) An evaluation of methods of coordinating, streamlining, and improving public access to data collected under Federal environmental statutes.

(9) An evaluation of data gaps and data duplication with respect to data collected under Federal environmental statutes.

In the report following the first biennial report provided for under this subsection, paragraphs (3) through (9) may be included at the discretion of the Administrator.

SEC. 9. SAVINGS PROVISIONS.

(a) Nothing in this Act shall be construed to modify or interfere with the implementation of title III of the Superfund Amendments and Reauthorization Act of 1986.

(b) Nothing contained in this Act shall be construed, interpreted or applied to supplant, displace, preempt or otherwise diminish the responsibilities and liabilities under other State or Federal law, whether statutory or common.

SEC. 10. AUTHORIZATION OF APPROPRIATIONS.

There is authorized to be appropriated to the Administrator $8,000,000 for each of the fiscal years 1991, 1992, and 1993 for functions carried out under this Act (other than State grants), and $8,000,000 for each of the fiscal years 1991, 1992, and 1993, for grant programs to States issued pursuant to section 5.

COMMONWEALTH of VIRGINIA

VIRGINIA EMERGENCY RESPONSE COUNCIL

Department of Air Pollution Control
Department of Emergency Services
Department of Fire Programs
Department of Health
Department of Labor and Industry
Department of State Police
Department of Waste Management
State Water Control Board

March 25, 1992

TO: William Reilly, Special Program Assistant
U.S. EPA, Region III
841 Chestnut Street
Philadelphia, PA 19107

Telephone: (215) 597-9302
FAX: (215) 580-2011

FROM: Cathy L. Harris, Ph.D.
Environmental Program Manager
SARA Title III/Waste Minimization
Virginia "33/50" Program Contact Person

SUBJECT: Pollution Prevention in Virginia

In preparation for the Wednesday, March 18, 1992, press release expected from William K. Reilly, Administrator for the U.S. Environmental Protection Agency, the SARA Title III/Waste Minimization Program of the Virginia Department of Waste Management reviewed the SARA Title III, Section 313 Toxics Release Inventory (TRI) data for "33/50" chemical releases in our Commonwealth.

These releases/off-site transfers of the 17 chemicals have steadily declined:

1988	1989	1990
39,376,000 pounds	34,320,000 pounds	29,797,000 pounds

Thus, Virginia has already documented a 24.4% decrease in the amounts of "33/50" chemical releases or off-site transfers--- and that despite a 9.5% increase in the number of reporting facilities--- for these years.

Current information indicates that, in Virginia, approximately 45 of an estimated 198 parent companies have already committed to the "33/50" Program, including approximately 70 of the estimated 250 facilities. (These figures do not include Virginia parent companies, such as the Ethyl Corporation, headquartered in Richmond, which have committed to the "33/50" Program, but have no facilities in the Commonwealth. Moreover, these figures are based upon commitments made in 1991; additional parent companies, and more facilities are committing to the "33/50" Program, in 1992.)

In preparation for the interest to be generated by the first U.S. EPA annual report/press release on the results of the "33/50" Program, the Virginia Waste Minimization Program has produced a Fact Sheet on this subject, a copy of which is enclosed.

Enclosure

33/50 Participating Companies With Facilities In Region III (as of March 1992)

Delaware
Allied Signal Inc.
Bairnco Corp.
Cabot Corp.
Ciba-Geigy Corp.
D S M Finance US
Du Pont
General Motors Corp.
Hercules Inc.
ICI Americas Holdings Inc.
James River Inc.
Johnson & Johnson
Johnson Controls Inc.
Occidental Petroleum Corp.
PPG Industries Inc.
Shell Petroleum Inc.
Standard of Chlorine of Delaware Inc.
Texaco Inc.

Maryland
Allied Signal Inc.
American Cyanamid Co.
Black & Decker Corp.
Bethlehem Steel Corp.
Certainteed Corp.
Chevron Corp.
Continental Can Co. Inc.
Crown Cork & Seal Co. Inc.
Cyclops Industries Inc.
Davis & Hemphill Inc.
Douglas & Lomason Co.
Elf Aquitaine Inc.
FMC Corp.
General Electric Co.
General Motors Corp.
Handy & Harman Co.
Illinois Tool Works Inc.
Keywell Corp.
Martin Marietta Corp.
Occidential Petroleum Corp.
Sherwin-Williams Co.
Techalloy Co. Inc.
Thiokol Corp.
Valspar Corp.
Vista Chemical Co.
W.R. Grace & Co.
Westinghouse Electric Corp.
Westvaco Corp.

Virginia
Allied Signal Inc.
American Telephone & Telegraph Co.
Amoco Corp.
Amstead Industries Inc.
Armstrong World Industries Inc.
Automata Inc.
Bassett Furniture Industries Inc.
Boehringer Ingelheim & A.H. Robins Co.
Cooper Industries Inc.
Disston Co.
Du Pont

Virginia (cont'd)
Easle-Picher Industries Inc.
Emerson Electric Co.
Ethyl Corp.
F C Holdings Inc.
Federal Mogul Co.
Ford Motor Co.
General Electric Co.
Georgia-Pacific Corp.
Goodyear Tire & Rubber Co.
Gravure Packaging Inc.
Hercules Inc.
Hoechst Celanese Corp.
IBM Corp.
ICI Americas Holdings Co.
International Paper Co.
I R International
ITT Corp.
James River Corp. of Virginia
Jordan Industries (American Safety Razor)
Koerber AG
Manville Corp.
Masco Corp.
Merck & Co. Inc.
Mobil Corp.
O'Sullivan Corp.
Philip Morris Co. Inc.
Premark International Inc.
Reynolds Metals Co.
Saunders Supply Co.
Seaward International Inc.
Shell Oil Co.
Snyder General Corp.
Storeys Transprints Inc.
Tenneco Inc.
Union Camp Corp.
Westinghouse Electric Corp.
Westvaco Corp.
Wood Preservers Inc.

West Virginia
American Cyanamid Co.
Ashland Oil Co.
B.F. Goodrich Co.
Bayer USA Inc.
Corning Inc.
Du Pont
General Electric Co.
Hanlin Group Inc.
Hercules Inc.
Illinois Tool Works Inc.
Inco Ltd.
Monsanto Co.
Occidental Petroleum Corp.
PPG Industries Inc.
Quaker State Corp.
Rhone-Poulenc Inc.
Steel of West Virginia Inc.
Union Carbide Corp.
Weirton Steel Corp.

Pennsylvania

ACC Holdings Corp.
Air Products & Chemicals Inc.
Aldan Rubber Co.
Allegheny Ludlum Corporation
Allied Signal Inc.
Alloy Rods Corp.
Aluminum Company of America
American Telephone & Telegraph Co.
Aristech Chemical Corp.
Armstrong World Industries Inc.
Arrow International Inc. Arrow Precision
Ashland Oil Inc.
Atlantic Richfield Co.
Bayer USA Inc.
Bell & Howell Co. Inc.
Bethlehem Steel Corp.
Boeing Co.
Bollman Hat Co.
Borden Corp.
BP America Inc.
Cabot Corp.
Calgon Carbon Corp.
Calig Steel Drum Co.
Carpenter Technology Corp.
Casket Shells Inc.
Caterpillar Inc
Certainteed Corp.
Chestnut Ridge Foam Inc.
Chevron Corp.
Ciba-Geigy Corp.
Clarion Capital Corp.
Coleman Co. Inc.
Congoleum Corp.
Continental Can Co. Inc.
Corning Inc.
Crown Cork & Seal Inc.
Cyclops Industries Inc.
Day & Zimmerman Basil
Ditri Associates
Dorma Door Controls Inc.
Du Pont
E.F. Houghton & Co.
East Liberty Electroplating
Easton Foam Corp.
Elastomeric Technologies Inc.
First Mississippi Corp.
FMC Corp.
Ford Motor Co.
Franklin Industries Inc.
GAF Corp.
Gencorp Inc.
General Electric Co.
Gentex Corp.
Goodyear Tire & Rubber Co.
Grumman Corp.
GTI Corp.
Guilford Mills Inc.
H M Anglo-American LTD (Jade Corp.)
Halstead Industries Inc.
Handy & Harman Co.
Hanson Industries Inc.
Hercules Inc.
Hillside Capital Inc.
IBM Corp.

Pennsylvania (cont'd)

ICI Americas Holdings Inc.INCO United States Inc.
Indal LTD
Ingersoll-Rand Co.
International Paper Co.
ITT Corp.
J & L Specialty Products Corporation
Jacobson Manufacturing Co. Inc.
James River Corp.
Jamestown Paint & Varnish Co.
Joyce International Inc.
Lectromat Inc.
LTV Corp.
LTV Steel Co. Inc.
Magee Carpet Co.
Mallinckrodt Inc.
Mead Corp.
Merck & Co. Inc.
Mercury Stainless Corp.
Molded Fiber Glass Co.
Moore Business Forms Inc.
North Star Steel
Occidental Petroleum Corp.
Owens-Corning Fiberglas Corp.
Paulsen Wire Rope Corp.
Pennzoil Co.
Pfizer Inc.
Plummer Precision Optics Inc.
PMF Industries Inc.
PPG Industries Inc.
PQ Corp.
Pruett Schaffer Chemical Co. Inc.
Quaker State Corp.
R.H. Sheppard Co. Inc.
Ranbar Technology Inc.
Raytheon Co.
Reading Alloys Inc.
Resilite Sports Products Inc.
Reynolds Metals Co.
Rockwell International Corp.
Rohm & Haas Co.
Scott Paper Co.
Shop Vac Corp.
Siebe PLC
SKF USA Inc.
Smithkline Beecham Corp.
SPD Technologies
Spray Products Corp.
Sun Refining & Marketing Co.
Talon Inc.
Temple-Inland Inc.
Thomson Consumer Electronics Inc.
Timken Co.
USX Corp.
UTI Corp.
Valspar Corp.
Viz Manufacturing Co.
Westinghouse Electric Co.
White Consolidated Industries Inc.
Witco Corp.
Woodbridge Holdings Inc.
Youngwood Electonics Metals Inc.
Zimmerman Holdings Inc.
3M

Appendix D

SURVEY OF STATE LEGISLATION

State/status	Def./Goals	Materials	Priorities	Coverage	Provisions	Access	Funding
Alaska enacted '90	Management: -solid & hazardous waste No statewide numeric goals		Includes: -source reduction -recycling -treatment -disposal Excludes: -incineration -media transfer	Not specified	-Technical assistance -Education -Grants -Information referral		Appropriations Not based on fees
California enacted '89	Reduction: -source -waste -release No statewide numeric goals	California hazardous & extremely hazardous wastes	Includes: -input, process, product change Excludes: -treatment -media transfer -volume change	Includes: -large-quantity generators Excludes: -those claiming infeasibility of options	-Facility plans -Performance reports -Pilot SIC codes -technical assistance	Plans/reports available to public; trade secrets available only to state	Based on fees and penalties
Connecticut enacted '91	Pollution Prevention: -generation -hazardous & toxic waste -multi-media No statewide numeric goals	Hazardous & Toxic Waste (not specified)	Includes: -input, process, product change Excludes: -incineration -media transfer -off-site or out of process recycle	Businesses with gross revenues of less than $25 M or less than 150 employees	-Technical assistance -Grant program		General Fund
Delaware enacted '90	Minimization: -hazardous & solid waste -multi-media reduction No statewide numeric goals	Delaware Code -solid/liquid/haz./refuse -air pollutants -sewage	Includes: -waste reduction -reuse & recycle -sound treatment & disposal	Industries & sites targeted at annual intervals Voluntary waste minimization planning	-Technical assistance -Information clearinghouse -Public education -Statewide recycling program	Trade secrets are protected	Not based on fees
Florida enacted '91	Pollution Prevention: -at the source No statewide numeric goals	Toxics (not specified)	Includes: -input substitution and reduction (including energy) -product reform. -process change -environ. planning for facility expansion -on-site recycling	LQGs, SQGs and toxics users pay annual fee	-Technical assistance -Conferences	Proprietary information obtained through on-site technical assistance is confidential.	General Fund
Georgia enacted '90	Reduction: -haz. waste No statewide numeric goals	Georgia hazardous & acute hazardous waste	Includes: -input, process, product change in-house recycle Excludes: -treatment -media transfer -volume change -incineration	Includes: -large-quantity generators -out-of-state LQ generators using Georgia TSDs	-Technical assistance -Facility planning	Plans/reports available to public; trade secrets available only to state	Not based on fees
Illinois enacted '89	Prevention: -toxic pollution No statewide numeric goals	SARA toxic substances & Illinois lists	Includes: -input, process, product change in-house recycle Excludes: -treatment -media transfer -volume change -incineration	Voluntary & pilot (Cooperation on permits). -generators	-Technical assistance -Innovation -Inspectors' manual -Explore enforcement -Research (HWRIC)	Trade secrets protected	General fund and money raised by HWRIC activity
Indiana enacted '90	Prevention is reduction of: -toxic material use -waste release No statewide numeric goals	CERCLA hazardous substances & Indiana "environmental wastes"	Includes: -input, process, product change in-house recycle Excludes: -off-site recycle -media transfer -incineration	Voluntary & pilot	-Technical assistance -Research -Grants -Generator planning manual	Trade secrets protected	General fund

SURVEY OF STATE LEGISLATION

State/status	Definitions	Materials	Priorities	Coverage	Provisions	Access	Funding
Iowa enacted '91	Prevention: toxics pollution No statewide numeric goals	Iowa lists which include SARA, RCRA	Includes: -input, process, product changes, integral recycle Excludes: -burning, transfer off-site recycle, exchange	Includes: -SARA reporters -LQGs	-Facility plans & summaries (voluntary) -Technical assistance -Information	Plans submitted to the Waste Management Authority for review and approval	General fund
Kentucky enacted '88	Reduction: -toxic waste generation No statewide numeric goals	RCRA, SARA	Includes: -input, process, product change in-house recycle Excludes: -off-site recycle or treatment -volume change	Voluntary: -RCRA and SARA report data collected	-Technical assistance -Information -Training -Grants -Set state goals	Trade secrets protected	General fund
Louisiana enacted '87	Reduction: -haz. & solid waste No statewide numeric goals	RCRA	Includes: -in-plant practices -in-process recycling Excludes: -off-process or off-site recycle -toxicity change	Includes: -large-quantity generators	-Waste reduction reports & plans (done) -Technical assistance -Fee structure promoting reduction	Public data laws apply	Based on fees & the general fund
Maine enacted '90	Reduction: -toxics use -toxics release -haz. waste Statewide goal-use reduction: -10% by 7/1/93 -20% by 7/1/95 -30% by 7/1/97	SARA toxics, RCRA	Includes: -input, product or process changes -capture for reuse, recycling treatment	Includes: -large-quantity generators -small-quantity generators -toxics users Excludes: -some LQGs, POTWs	-Facility plans and reports -Info program -Advisory committee -Technical services -Grants	Plans available to state	Based on fees
Massa-chusetts enacted '90	Reduction: -toxics use and release Statewide goal-waste reduction: -50%	SARA toxics, CERCLA	Includes: -input, product or process change Excludes: -incineration -media transfer -treatment -off-site recycle	Includes: -large-quantity toxics users -small-quantity toxics users Excludes: -facilities<10 employees	-Facility plans and reports -Toxics use planners -Toxics use survey -Technical assistance	Public petition for review of plan summary and report -plans are public; trade secrets protected	Based on fees
Michigan possibly '92					-Technical assistance		
Minnesota enacted '90	Prevention: -toxic pollutants use, release generation No statewide numeric goals	SARA toxics	Includes: -input, product or process change -reduction in releases	Includes: -SARA reporters -large-quantity generators (fees only)	-Facility plans and reports -Guidance manual -Technical assistance -Grants	Public petition for review of progress reports -plans are protected	Based on fees
Mississippi enacted '90	Minimization: -haz. waste Statewide goal-waste reduction: -25% by 1/1/96	Any EPA-listed haz. waste	Hierarchy: 1. Source reduction 2. Waste reduc. 3. Recycling 4. Treatment 5. Disposal	Includes: -large-quantity generators -small-quantity toxics users -SARA reporters	-Facility plans and reports -Technical assistance -Training -Research -Explore new statutes	Plans may be made available to public; trade secrets are protected	Based on fees
Missouri proposed '91 (not passed)	Prevention: -source reduction Reduction: -hazardous waste generation No statewide numeric goals	SARA III 313 Missouri list	Prevention: -changes that result in a reduction Reduction: -input, process, product change, in-house recycle	Includes: -large-quantity generators -small-quantity toxics users -SARA reporters	-Facility plans and reports -Information -Conferences -Waste Audits -Low-interest loans -Waste exchange -Training	Plans and reports are available to the public; trade secrets are protected	Based on fees

SURVEY OF STATE LEGISLATION

State/status	Definitions	Materials	Priorities	Coverage	Provisions	Access	Funding
New Jersey enacted '91	Prevention: -hazardous substance pollution Statewide goal-discharge reduction: -50% by 1996	SARA III 313 toxics	Includes: -input, process, product change, in-house recycle Excludes: -off-site recycle or treatment -incineration -increased poll. control	Priority facilities in selected SIC codes in 3 years. Others may be required by DEP	-Facility-wide permitting -Facility plans & summaries -Training	Trade secrets available to state, but not to public	Based on fines & general fund
New York enacted '90	Reduction: -haz. waste, toxic substance release & generation Statewide goal-waste reduction: -50% by 1999	SARA, RCRA	Includes: -input, process, product change, in-house, closed-loop or off-site recycling	Includes: -current permit holders -generators of 25 tons and up	-Facility plans & reports -Guidance manual -Evaluation	Public data rules apply	Based on fines & general fund
North Carolina enacted '89	Management & Minimization: -haz. waste No statewide numeric goals	RCRA & North Carolina	Includes: -minimization or reduction of quantity or toxicity of haz. waste	Includes: -all NC fee-paying generators	-Facility plans -Technical assistance -Grants -Information		Based on fees
Ohio proposed '91	Reduction: haz. waste Statewide goals to be established	RCRA solid & hazardous wastes	Waste Reduction: -source reduction (inputs, process, procedures) -on-site recycling -off-site recycling -treatment -sound disposal	Includes: -RCRA generators -out-of-state generators are subject to fees	-Technical assistance -Enforcement -Facility plans, notifications & annual reports	Reviewed by OHEPA; log of reviews done is public Trade secrets confidential	-Fees based on generation of hazardous & solid waste (may not pass) -Fines
Oregon enacted '90	Reduction: -toxics use -haz. waste generation No statewide numeric goals	SARA, RCRA	Includes: -input, process, product change, in-house, closed-loop or off-site recycling	Includes -SARA reporters generators: -conditionally exempt -fully-regulated -small-quantity	-Facility plans, reports & summaries -Technical assistance -Training -Information	Summaries are public record except trade secrets: plans & reports stay on-site	Based on fees
Rhode Island enacted '89	Planning for: -haz. waste facilities No statewide numeric goals	RCRA, Rhode Island lists of "hard-to-dispose" materials		Includes: -all users of haz. waste facilities	-Technical assistance -Education -Research -Grants		Based on fees and general fund
South Carolina planned '91	Reduction: -toxics use -toxics generation Statewide goal-waste reduction: -50% by 1998	SARA, CERCLA, SC lists	Includes: -input, process, product change, in-house or closed-loop recycling Excludes: -incineration -treatment -off-site recycle -media transfer	Includes: -toxics users in selected SIC codes, small or large -POTWs Excludes: -under 10 FQE	-Facility plans, reports & summaries -Technical assistance -Outreach & training -Classify units of production	-Citizen petition -Trade secrets protected	Based on fees
Tennessee enacted '90	Reduction: -haz. waste -source Statewide goal-waste reduction: -25% by 6/3/95	RCRA	Includes: -in-process recycling or changes in process or inputs	Includes: -small-quantity generators -large-quantity generators	-Facility plans, reports & summaries -Technical assistance -Civil fines	-Summaries are public; plans & reports aren't	General fund

SURVEY OF STATE LEGISLATION

State/status	Definitions	Materials	Priorities	Coverage	Provisions	Access	Funding
Texas enacted '91	Reduction: -source Minimization: -haz. waste No statewide numeric goals	SARA III 313 RCRA	Includes: -input, process, product change Excludes: -any process not integral to the product that alters the waste	Includes: -SARA reporters -Large-quantity generators	-Facility plans, reports & summaries -Governor's Award -Permit variance -Information -Conferences -Training -Waste Audits	-Summaries and reports are public; plans are not -Board can declare plan confidential	Based on fees
Vermont enacted '90	Management & Reduction: -source -toxics use Establish and adopt a statewide goal	SARA, RCRA	Includes: -input, process, product change, closed-loop recycling Excludes: -incineration -treatment -volume change -media transfer	Includes: -small-quantity generators -large-quantity generators -household generators	-Facility plans & reports -Study of toxic use reduction -Tax RCRA generators -Technical assistance -Research -Retail labeling	-Trade secrets are protected	Based on fees
Washington enacted '90	Reduction: -haz. waste -hazardous substance use Statewide goal-waste reduction: -50% by 1995	SARA, WA lists, Montreal Protocol (ozone-depleters)	Includes: -input, process, product change, closed-loop recycling Excludes: -incineration -media transfer	Includes: -all haz. waste generators regulated by WA -SARA reporters	-Facility plans & summaries (voluntary impl.) -Fees/penalties -Technical assistance -Research -Training	-Summaries & reports are public; plans are not -Competitive position protected	Based on fees
Wisconsin enacted '89	Use & Release Reduction: -toxic pollutants -haz. waste & substances PollutionPrev. No statewide numeric goals	SARA, RCRA	Includes: -input, process, product change, closed-loop recycling Excludes: -incineration -treatment -out-of-process recycling -media transfer	Voluntary Includes: -haz. waste generators -hazardous substance users	Voluntary -Waste audits -Research -Grants Mandatory -Waste min. documentation on manifests & reports		General fund
U.S. enacted '90	Pollution prev.= source reduction excluding volume, character change not integral to process	SARA ("multi-media")	Hierarchy: -source red. (p.p.) -safe recycling -safe treatment -safe disposal	TRI facilities report on SR/recycling: -amounts entering -amounts recy. -SR practiced -prod. level ratios -treat/release #s	-Financial assist. to the states -Program office training -I.D. measurable goals	SR/recycling report data is public in same manner as TRI	1991-93: -$8 million administration -$8 million state grants

SECRETARY OF NATURAL RESOURCES POLLUTION PREVENTION POLICY STATEMENT

Whereas, waste byproducts, in the form of emissions to the air, discharges to ground and surface waters, and treatment and disposal in land based facilities are a consequence of daily processes engaged in by Virginia industries, firms, governments, institutions, and the public; and

Whereas, the safe management of these waste byproducts, whether the release is to air, land, or water, is of utmost importance and urgency to the citizens of the Commonwealth of Virginia; and

Whereas, the release of waste byproducts reduces the efficiency and competitiveness of Virginia industries; and

Whereas, Virginia and the nation have effectively employed control strategies to reduce the impact of releases of waste byproducts to our waters, air and land; and

Whereas, in spite of these control strategies and the expenditure of billions of private and public sector dollars, millions of tons of waste byproducts are released annually to the environment; and

Whereas, many of these control strategies are reaching a point where each additional control strategy affects a smaller release at a greater cost; and

Whereas, the best long term solution to the pollution problems of both the Commonwealth and the nation is to prevent the generation of pollution rather than manage it once it is generated; and

Whereas, it is in the public interest to reduce or, where possible, eliminate waste byproducts to the environment in order to protect the public health and the environment and to conserve natural resources; and

Whereas, energy conservation is a desirable objective; and

Whereas, the Virginia General Assembly and the Board of Waste Management have adopted a waste hierarchy that emphasizes source reduction, reuse, and recycling over treatment technologies; and

Whereas, pollution prevention refers to activities that eliminate or reduce, in volume, mass, and toxicity, any wastes or process byproducts destined for release to air, water or land or any activity that fosters alternative use of previously unused process byproducts; and

Whereas, pollution prevention offers significant environmental and economic benefits to the public, industries, firms, and institutions in terms of worker and environmental protection, increased efficiency and competitiveness, and conservation of natural resources; and

Whereas, opportunities exist to employ current methods and to develop new technologies for the reduction, reuse, recycling, and treatment of hazardous waste; and

Whereas, information and technical assistance are needed to overcome institutional and regulatory barriers in both the public and private sectors to the adoption of pollution prevention practices; and

Whereas, the opportunities for pollution prevention are often not realized because existing regulations, and the industrial resources they require for compliance, focus upon treatment and disposal, rather than source reduction, recovery and reuse; and

Whereas, greater coordination between the Department of Air Pollution Control, the Department of Waste Management and the State Water Control Board could prevent the shifting of releases from one environmental media to another;

Therefore, be it resolved: It is the policy of the Commonwealth of Virginia to prevent pollution by:

1. Adopting measures that encourage the reduction of waste byproducts emitted to the air, discharged to the water, or sent for treatment and/or disposal to a land based facility;

2. Promoting waste reduction practices by private and public entities subject to the environmental laws and regulations of the Commonwealth;

3. Incorporating pollution prevention measures into planning activities and program development and implementation;

4. Considering multimedia aspects of legislation, policies, regulations, and actions taken;

5. Encouraging cooperation among the Department of Air Pollution Control, the Department of Waste Management and the State Water Control Board on pollution prevention and program implementation to prevent the shifting of waste byproducts from one environmental media to another; and

6. Promoting pollution prevention opportunities in a manner that:

   (a) addresses all types of waste byproducts throughout their life cycles;
   (b) is technically and economically feasible; and
   (c) will enhance regulatory compliance.

ENDORSED BY:

Virginia Water Control Board: September 23, 1991
Virginia Air Pollution Control Board: July 26, 1991
Virginia Waste Management Board: August 15, 1991

SENATE JOINT RESOLUTION 103
JOINT SUBCOMMITTEE STUDY OF POLLUTION PREVENTION

THE BASIS FOR THE STUDY

Senate Joint Resolution 103 was passed by the Virginia General Assembly to establish a study to identify and evaluate potential incentives for the adoption of pollution prevention initiatives in the Commonwealth. This approach represents a departure from the traditional "command and control" approach to environmental issues. It is pro-active, innovative and uniquely appropriate for pollution prevention.

Unlike traditional environmental control, pollution prevention activities often involve unique activities and solutions. Pollution prevention activities will vary significantly from industry to industry. For example, certain types of pollution prevention activities will be appropriate for gaining significant benefits in one industry, but they will have no application to any other industry.

Similarly, there will also be significant variation within industry groups. No two industrial facilities, even those within the same manufacturing classification, are identical. They vary in terms of product produced, methods employed and equipment available. This fact makes the application of a command and control approach particularly inappropriate. Such an approach would be extremely complex and difficult (perhaps impossible) to enforce.

In addition to the foregoing, there is also great variety among individual facilities. In particular, there will be significant variety in the availability of capital for equipment modifications or process changes. This factor will have a significant, direct impact on the ability of individual facilities to implement pollution prevention programs.

Moreover, the "hidden penalties" associated with a command and control approach will be avoided. For example, the imposition of mandatory, across-the-board reductions without regard to differences in processes, technology, equipment and capital funding would be disastrous. It would penalize those companies which have already undertaken significant pollution prevention activities and could potentially cripple those companies which could not technologically or economically achieve such mandates.

These factors strongly favor the non-regulatory approach currently being explored by the Joint Subcommittee. The elimination of barriers and the provision of incentives, education and technical support should be the hallmark of Virginia's pollution prevention program. Pollution prevention activities are currently being voluntarily undertaken by

numerous facilities within the Commonwealth and, with appropriate incentives, such efforts should be significantly expanded.

For these reasons, the VMA strongly supports the non-regulatory approach being taken by the Commonwealth. It is hoped the Joint Subcommittee's final report will adopt some of the recommendations set forth below to promote pollution prevention activities in the Commonwealth.

ECONOMIC AND NON-ECONOMIC INCENTIVES

Vigorous programs of economic and non-economic incentives would be effective in promoting the Commonwealth's pollution prevention/waste minimization goals. These efforts should be broad-based and geared to address all "waste minimization" efforts. This would include any project, process, or procedures which will reduce or eliminate hazardous waste or which will reduce the volume of solid waste generated in the Commonwealth. This program should also include pollution prevention activities affecting air and/or water emissions.

The provision of certain economic and non-economic incentives by the Commonwealth can assist the private sector in overcoming some of the existing barriers to pollution prevention. Economic incentives (such as tax credits, grants, loans and other programs) and non-economic incentives (such as education, technical assistance and other programs) can be used to stimulate voluntary pollution prevention efforts within the Commonwealth.

A. Economic Incentives

1. Investment Tax Credits. An investment tax credit could be provided in an amount equal to a percentage of a business' investment in a pollution prevention project. Such a tax credit could then be deducted from the business' income tax liability (or similar tax liability) to the Commonwealth over a set period of time.

2. Rapid Depreciation. The full cost of real and personal property used in a pollution prevention project can be subject to the special, rapid depreciation rules.

3. Sales & Use Tax Exemptions. The purchase and sale of personal property used in pollution prevention projects can be exempted from state and local sales and use tax. As most such investments probably already qualify under the manufacturing equipment exemption, such an exemption should have only a limited impact on the revenues provided to the Commonwealth.

4. Pollution Control Equipment. The current exemption from local taxation for real and personal property used for

pollution control should be extended to include real and personal property used for pollution prevention projects.

5. State Loans and Grants. The Commonwealth could provide loans and/or grants for the development or expansion of pollution prevention industries within the Commonwealth an/or for the development and implementation of certain "pilot projects" to develop or utilize pollution prevention technologies.

B. Non-Economic Incentives

1. Education and Technical Assistance. The Commonwealth could establish programs within each appropriate state agency to provide education and technical assistance to the regulated community. (This would be of particular value to small businesses.)

2. Audit Program. Affected agencies could adopt a program to provide a "cost free" pollution prevention audit to assist certain industries or businesses in the development or implementation of pollution prevention technologies. Such a program should be specifically tailored to limited segments of industry to allow the appropriate agencies to develop sufficient expertise to provide useful and timely information to the affected segment of the regulated community. Toward this end, affected agencies could identify significant "small generators" whose joint contributions represent a significant portion of the overall wastestream within the Commonwealth and provide assistance to that limited group.

3. Regulatory Flexibility. Governmental agencies should adopt procedures allowing for regulatory flexibility in environmental permitting. Where an applicant seeks to use a pollution prevention alternative to an existing regulatory requirement and where permitting such an alternative activity would not result in harm to the public health or environment, the regulatory agency should be authorized and encouraged to issue appropriate variances and permits.

4. Pilot Programs. Special funding could be provided by the Commonwealth to one or more selected localities on a "pilot program" basis for the development of public facilities for waste separation and similar waste minimization activities. (Such programs would, in all likelihood, be designed primarily for recycling activities.)

5. Promotion of Waste to Fuel Projects. The Commonwealth could promote waste to fuel projects in an effort to reduce solid waste. While traditional waste to energy facilities are generally designed to incinerate all waste, waste-to-fuel projects would be designed to draw off

combustibles for reprocessing into a usable fuel source by commercial, industrial and institutional boilers.

Although this may not include such activities which are generally classified as incineration of trash to produce energy, it should include the development of alternative fuels through the diversion and further processing combustibles (i.e., primarily paper and wood residues) from the solid wastestream. For example, the removal of "non-recyclable" waste paper from the wastestream to be reprocessed into a combustible fuel would generate environmental benefits distinct from those associated with a refuse to energy facility.)

6. Governor's Award Program. The Governor's Award Program should be expanded to provide recognition for pollution prevention efforts undertaken by individuals, localities and businesses.

7. Coordination With the Regulated Community. In order to effectively implement a pollution prevention program, each affected state agency should establish an ad hoc advisory or technical advisory group. Such groups could provide industry-specific information and access to industry associations. This could generate valuable information, access to technical data bases and practical expertise to assist certain segments of the regulated community to promote pollution prevention programs more effectively.

8. Innovative Technology/Approaches. The Center for Innovative Technology and/or Virginia's incentives could be encouraged to research and develop innovative and creative technology/approaches.

SPECIFIC RECOMMENDATIONS

In light of the current state of the nation's economy and the Commonwealth's economy, the willingness and the ability of the General Assembly to provide economic incentives may be limited. Similarly, its ability to fund non-economic programs may also be limited. For this reason, the VMA requests that the Joint Subcommittee consider all of the above proposals in its deliberations, but give special consideration to the following recommendations:

1. Certified Pollution Control Equipment and Facilities.

Current Virginia law exempts certified pollution control equipment in facilities from state and local sales tax. Similarly, localities are authorized to exempt such equipment and facilities from local taxation. The initial report of the staff indicates that these tax provisions may not apply to pollution prevention activities.

It is recommended that the Division of Legislative Services and/or the Attorney General's Office review the existing statutes relating to pollution control equipment and determine what alterations are necessary to incorporate pollution prevention within the framework of the existing statutes. This will allow the incorporation of a pollution prevention program into the existing pollution control equipment program and avoid the necessity of establishing a totally new program. This limited expansion of an existing program should not create a significant loss of revenue to the Commonwealth.

2. Regulatory Flexibility.

The General Assembly could, through Joint Resolutions, voice its support for regulatory flexibility in dealing with variances related to pollution prevention activities. The existing statutes and regulations may not need to be changed. However, a clear indication should be sent to permitting agencies that such efforts, where environmentally sound, are to be promoted and not hindered.

3. Promotional Waste Fuel Activities.

The reclassification of waste to fuel (as opposed to waste to energy) facilities as "recycling" can be accomplished by legislative or regulatory action. The Department of Waste Management should be asked to investigate this issue and determine if its regulations could be revised to reclassify such operations to enable them to be treated as recycling operations.

4. Governor's Award Program.

The existing Governor's Award Program should be expanded to recognize pollution prevention activities.

5. Technical Advisory Groups.

The development of technical advisory groups with volunteers from segments of the regulated community can provide valuable and needed expertise at no cost to the Commonwealth. If the Commonwealth were to select limited segments of the regulated community for study, industry cooperation might generate significant benefits in developing practical pollution prevention alternatives and solutions.

COMMONWEALTH of VIRGINIA

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To: Elizabeth H. Haskell, Secretary of Natural Resources

From: Sharon Kenneally-Baxter, Pollution Prevention Manager

Through: Harry E. Gregori, Jr., AICP, Director
Office of Policy, Planning and Public Affairs

Subject: Pollution Prevention Study Paper

Date: November 4, 1992

As requested, attached is a study paper prepared by staff of the Department of Waste Management in response to the white paper submitted to the Pollution Prevention Subcommittee by the Virginia Manufacturers Association at the September 17, 1992 meeting. The paper will be discussed at the November 5, 1992 Subcommittee meeting.

Senate Joint Resolution 103
Joint Subcommittee Study of Pollution Prevention

This study paper examines the recommendations made by the Virginia Manufacturers Association (VMA) to the Joint Subcommittee Study of Pollution Prevention. Because the implications of the economic incentives have not been calculated, no recommendations on these options have been formulated; however, recommendations on the non-economic incentives are included. Appendix A includes descriptions of federal legislation impacting pollution prevention efforts. Appendix B outlines a model for a pollution prevention public/private initiative entitled "Pollution Prevention Partnership".

Prior to a discussion of the suggested alternatives, it is worthwhile to note that the use of term "pollution prevention" in this study paper is consistent with the definition recently developed by EPA in response to the Pollution Prevention Act of 1990 (PPA). Under the PPA, Congress established a national policy that:

- Pollution should be prevented or reduced in an environmentally safe manner whenever feasible;
- Pollution that cannot be prevented should be recycled in an environmentally safe manner whenever feasible;
- Pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and
- Disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner.

EPA defines pollution prevention as source reduction and other practices that reduce or eliminate the creation of pollutants through: (1) increased efficiency in the use of raw materials, energy, water, or other resources; or (2) protection of natural resources by conservation. The PPA defines "source reduction" to mean any practice which:

- Reduces the amount of any hazardous substance, pollutant or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and
- Reduces the hazards to public health and the environment associated with the release of such substances, pollutants or contaminants.

A. ECONOMIC INCENTIVES

Several economic incentives are outlined in VMA's report, including investment tax credits, rapid depreciation, sales and use tax exemptions, pollution control equipment exemptions and state loans/grants. In recent years, much attention has been paid to the use of economic incentives for pollution prevention. One study prepared for California suggested that effective tax benefit programs must set allowances high enough to affect investment decisions; a tax credit

of no less than 50% of the investment is recommended.[1] Some states increase the costs of producing wastes by imposing fees or taxes on the volume of wastes generated or disposed of, or on the amount of toxic substances used or released.

1. Investment Tax Credits

A credit equal to a percentage of the cost of the equipment can be deducted directly from the tax liability owed to the state. Tax incentives generally apply to equipment purchased rather than reductions achieved; consequently, the cost of a tax credit may not be justified by the amount of waste reduced. In addition, firms might be prompted to invest in equipment changes or modifications rather than process changes.

2. Rapid Depreciation

The full cost of the investment for pollution prevention equipment can be applied against gross income over a specified period less than the equipment's useful life.

3. Sales & Use Tax Exemptions

A sales tax exemption of 4.5% already exists for equipment purchased by manufacturers for purchases used in production; most equipment purchased for pollution prevention projects would therefore already be covered unless an additional tax exemption was enacted. To reduce the burden of certifying qualified deductions in its pollution prevention tax exemption program, California maintains a list of eligible technologies.

4. Pollution Control Equipment

Certification for pollution control equipment is done by the State Water Control Board and the Department of Air Pollution Control for equipment that is primarily used in the abatement of air or water pollution. Localities have the option of granting real estate/property tax exemptions for certified pollution control facilities. These authorities could be expanded to include pollution prevention equipment. Similar to investment tax credits, exemptions for pollution prevention equipment may discourage process changes. Expanding the exemption for pollution control equipment to include equipment that prevents pollution may create some overlap with another exemption for industrial materials, machinery and tools used directly in manufacturing, processing or mining products for sale.

5. State Loans and Grants

Loans or grants to businesses for pollution prevention research or other pilot projects have been used very successfully in other states. The state of Connecticut provides financial assistance for pollution prevention projects through the Connecticut Technical Assistance Program (ConnTAP). Each year, ConnTAP allots $25,000 for the Matching Challenge Grant Program, awarding $5,000 to five applicants who agree to match the funds awarded 100 percent.

ConnTAP also administers a $10 million Environmental Assistance Revolving Loan Fund that provides up to $250,000 per completed pollution prevention/source reduction project. Loan recipients must be Connecticut businesses with less than $25 million in gross sales or fewer than 150 employees. Connecticut's Spill Response Fund, which is supported by a tax on hazardous waste generators, supports the loan program. Additional financing options are available through the Connecticut Development Authority and Connecticut Innovations, Inc., a non-profit corporation formed by the state. Connecticut businesses are also assisted by ConnTAP in securing Small Business Assistance loans and EPA grants.

6. Private Activity Bonds

In addition to the specific recommendations outlined in its white paper, the VMA has suggested that the General Assembly investigate the feasibility of expanding the use of private activity bonds for pollution prevention activities. In response to this suggestion, three options were examined: (1) expand the definition of eligible facilities ("exempt facilities") under the industrial development bond program to include pollution prevention activities; (2) revise the allocation formula among existing bond categories to increase the funds available for projects in the industrial development bond category meeting the revised "exempt facility" definition; and (3) reallocate funds in underused bond categories to the industrial development bond category for projects meeting the revised "exempt facility" definition.

The Commonwealth may authorize the issuance of approximately $315 million in tax-exempt private activity bonds under Chapter 33.2 of Title 15.1 (§§ 15.1-1399.10 et seq.). Interest on the private activity bonds is exempt from federal income tax pursuant to Section 146 of the Internal Revenue Code. Private activity bonds are allocated for several types of projects, including housing (41% of the state's ceiling, or $128,863,000), industrial development (41%, or $128,863,000), student loans (8%, or $25,144,000), and for state projects determined by the Governor (10%, or $31,430,000). The bond program is administered by the Department of Housing and Community Development.

Industrial development bonds (IDBs) may be issued for certain manufacturing facilities and "exempt projects." Exempt projects include sewage, solid waste and qualified hazardous waste disposal facilities, as well as water projects, mass commuting facilities, facilities for furnishing electric energy and other projects. Sandra McNinch, a local bond attorney with Mays & Valentine, has indicated that certain pollution control projects may qualify as exempt facilities. Qualification of a project as an exempt facility depends on interpretation of federal tax law and regulations. Therefore, a determination of whether a pollution prevention project will be eligible for IDBs under this program will turn on whether it qualifies as a solid waste disposal facility under applicable federal guidelines. A change in the Virginia Code's definition of exempt facilities will not change the number or types of projects eligible for federal tax exempt bonds.

The amount of tax exempt bonds available for exempt facilities, including pollution control projects, could be increased by revising the allocation of bonds among the existing categories, or by providing that unused bonds in one category be transferred to the "exempt

facilities" category. Information provided by the Department of Housing and Community Development indicates that most of the bond amounts are utilized in the years authorized. For example, in 1991, only $309,000 of the $304,900,000 state ceiling was not used, and all of the unused portion was from the allocation for industrial development bonds. In 1990, $469,316 of the $304,900,000 state ceiling was not used, and all but $2,000 of the unused portion was from the IDB allocation. These figures indicate that allocations for housing, student loans and other projects are not being lost. The unused allocation for IDBs does not mean that their allocation is too large, because the Department prefers to maintain a cushion of about $300,000 each year to cover unanticipated circumstances.

Regulations promulgated by the Board of Housing and Community Development establish the procedure for the transfer of unused portions of the bond allocations from the initial category to another. Any unused bond issuing authority for IDBs remaining in any year will be applied, in descending priority, to local government projects for exempt facilities, public utility projects, private sector waste disposal and utility facilities, other eligible exempt projects, student loan bonds, and VHDA bonds. Unused bond authority from the housing and student loan categories would now be carried forward or transferred to VHDA and would not be eligible for use for exempt facilities or other IDB projects.

The authority to issue private activity bonds for manufacturing facilities expired on June 30, 1992. The 1992 federal tax bill provides for an extension of authority to issue IDBs for manufacturing facilities. However, the bill has not been signed into law, and the President has threatened to veto it. The 1992 tax bill would not affect the issuance of IDBs for exempt facilities.

To summarize, the allocation of tax exempt bonds for exempt facilities may help reduce environmental pollution by providing low-cost funding for some qualified pollution control facilities. The bonds may, but are not likely to, provide an incentive for purely pollution prevention projects. The Commonwealth is not empowered to broaden the scope of pollution prevention activities that may qualify for tax-exempt financing under the private activity bond program because the tax exemption is driven the Internal Revenue Code. Finally, reallocating the bond ceiling among categories to provide more authority for exempt facilities could only be done at the expense of housing and student loan programs because there is no surplus of unused bond capacity for these programs.

B. NON-ECONOMIC INCENTIVES

1. Education/Technical Assistance

Seminars/Conferences: Generally conducted on an industry-specific basis, seminars usually are limited to four to eight hours of industry and vendor presentations, with state pollution prevention program staff serving as facilitators. In some cases, a combined compliance/pollution prevention seminar is offered. The Virginia program has recently targeted

several industries for this type of outreach, including ship repair and furniture. Designed for a wider audience, conferences often cover an issue such as new regulations, facility pollution prevention planning requirements, or general approaches to pollution prevention. Conferences usually consist of one to two days of industry/government presentations.

Pollution prevention technical assistance efforts should not be diffused throughout the media offices of DEQ as suggested in the VMA document. It is vital to the success of any multimedia pollution prevention effort that one central office is responsible for outreach activities; however, pollution prevention concepts will be incorporated into all activities of DEQ. In addition, for optimum efficiency, the pollution prevention program should either include or be closely aligned with both solid waste reduction/recycling outreach, the Small Business Assistance Office (required under the Clean Air Act Amendments), and any similar programs currently within the Water Control Board.

Recommendations: The need for continued and expanded education and technical assistance for pollution prevention is clear; however, this will only be possible with increased program resources. A central pollution prevention program within the Department of Environmental Quality, expanding on the existing Waste Reduction Assistance Program could be established. In addition, a permanent funding source is needed for pollution prevention activities; the current source of funding, a "seed money" grant from EPA, expires in June of 1993. Options range from general fund monies to waste generation fees, reporting fees, and enforcement penalties. In addition, EPA is also beginning to encourage states to redirect a portion of media grants (e.g., air, water and waste) toward the establishment of a multimedia pollution prevention program; guidance for states on how to develop acceptable proposals is expected within the next few months.

Curricula Development: Increasingly common in some states, curricula has been developed for both K-12 and college level students. In Virginia, the Council on the Environment (COE) has a leading role in environmental education. A workshop on environmental issues that included a pollution prevention segment was offered in 1992.

In the Spring of 1991, the University of Virginia presented a graduate-level course entitled "Risk Management Through Waste Minimization". This course introduced students to the nature of waste management and the various principles of waste reduction and pollution prevention. The University does not offer this optional course on any regular basis. The engineering programs at Virginia Tech and Old Dominion offer a wide range of environmental engineering and policy courses which, in many cases, incorporate and emphasize the concepts and theories of pollution prevention. However, there are no courses dedicated to pollution prevention.

At the federal level, the US EPA has designated the University of Michigan to be the center for pollution prevention education. Established in 1991, the National Pollution Prevention Center develops higher education curriculum modules for inclusion in undergraduate and

graduate engineering, business, industrial design, and natural resources classes. Currently, the center is working with faculty to test these modules with an eye toward dissemination in the summer of 1993.

Recommendation: Schools within Virginia, particularly those universities offering engineering degrees, could be encouraged to revise curricula to reflect the concepts of pollution prevention.

2. Audit Program

Waste audits, or on-site technical assistance, are provided as a service of many state pollution prevention programs through a variety of mechanisms. Program staff are often assigned responsibility for visiting and assisting specific facilities. State programs vary in terms of their accessibility: some programs target specific industries, some programs provide technical assistance on-demand, and some programs conduct demonstration audits only. The average program consists of 3-5 full-time employees that respond to technical assistance requests. Generally, a staff of this size can handle 50-75 on-site technical assistance visits per year. In Oregon, engineers "borrowed" from the permitting section supplement the three-member technical assistance staff.

There appears to be consensus that these programs do not compete with private consulting firms offering audit services because most state programs are only involved in the initial stages of identifying pollution prevention opportunities. In many instances, the state program audits lead to additional opportunities for consulting firms capable of assisting in the implementation of the options identified.

Many states supplement their programs with retired engineers and student interns. Retired engineers generally act as adjunct program staff; however, because they are paid on an hourly rate, the cost to maintain several retired engineers on staff versus full-time employees is significantly lower. Student interns commonly focus on a particular facility for a semester project; they assist industry while gaining "real-world" experience. In Virginia, student intern programs could be established at the three state universities offering engineering degrees (Virginia Tech, University of Virginia and Old Dominion University), making the services available state-wide. Student intern programs can be structured in the following manner: (1) state funded, competitively awarded graduate or undergraduate internships for independent research; or (2) university run programs where class credit is awarded in exchange for research services.

Recommendation: Virginia could expand its on-site technical assistance capability through a combination of additional full-time staff, students and retired engineers.

3. Regulatory Flexibility

A variety of regulatory flexibility options are available to increase incentives for pollution prevention. These include the use of variance procedures as they currently exist as well as new approaches such as the use of pollution prevention in inspections or enforcement settlements. Various options are listed below, divided into the general categories of existing and alternative mechanisms.

a. Existing Mechanisms. Regulatory flexibility can only be incorporated to the extent that federal regulations allow or in the enforcement of state regulations. As noted in the Amoco/EPA Pollution Prevention study, "requirements under many statutes and regulations prescribe how release reductions should be achieved, sometimes in terms of which technology should be used, often in terms of which specific sources should be controlled".[2]

Virginia Water Control Board. Variances to the Virginia Pollution Discharge Elimination System permits are granted in accordance with the requirements of CFR 124.62. One basis is the use of innovative technology to meet effluent limitation requirements "by replacing existing production capacity with an innovative production process which will result in an effluent reduction significantly greater than that required by the limitation otherwise applicable to such facility and moves toward the national goal of eliminating the discharge of all pollutants, or with the installation of an innovative control technique that has a substantial likelihood for enabling the facility to comply with the applicable effluent limitation and moves toward the national goal of eliminating the discharge of all pollutants, or by achieving the required reduction with an innovation system that has the potential to significantly lower costs than the systems which have been determined by the Administrator to be economically achievable." An extension of the date of compliance with such effluent limitation by no more than two years may be granted if it is also determined that such innovative system has the potential for industry-wide application (Clean Water act, Section 301(k)). No variances have been requested on this basis.

The Water Control Board also recently issued guidance pertaining to the preparation of VPDES permits based on the Water Quality Standards for toxics. The guidance noted that permit writers have flexibility to deal with individual situations where the recommended approach might not be appropriate. In certain instances, schedules of compliance which incorporate a recommended four year time frame for meeting standards for toxics can be included. Generally, the schedule would allow a year for special studies related to meeting the water quality standard and three years for construction of the facilities required.

Department of Air Pollution Control. Compliance schedule extensions are generally granted only in situations where an existing facility is required to meet a new standard.

Department of Waste Management. The Department of Waste Management's regulations govern two categories of waste: solid and hazardous. In terms of solid waste management, yard waste composting is allowed currently on a "permit by rule" basis. This exemption from normal permitting requirements is provided by regulations which state that a facility or activity is

deemed to have a permit if it meets the requirements of provisions contained in the regulation. This includes standards related to siting, design and construction, operations, and closure, including financial assurance. Amendments to the Solid Waste Management Regulations propose extending permits by rule to transfer stations, all materials recovery facilities and energy recovery or incineration facilities. Current solid waste management regulations also allow permits for experimental solid waste management facilities. This provision would be retained in the proposed amendments. This type of permit would be issued for a one year term with up to three renewals. Variances to the solid waste regulations can also be granted in instances where achievement of performance requirements can be met by other means.

Hazardous waste regulations exempt from regulation hazardous wastes that were reused or recycled without reclamation. The exemption applies to both on-site and off-site reuse and recycling. Research, development and demonstration permits are also allowed under the hazardous waste regulations. Like experimental solid waste permits, these are issued for one year terms with up to three renewals. Changes in hazardous waste identification and listing, solid waste classifications, process clarifications and management procedures are also provided for in the Department's regulations.

Recommendation: Use of existing mechanisms for regulatory flexibility for pollution prevention projects could be explored and facilitated by the Commonwealth.

b. Alternative Mechanisms. Many states promote pollution prevention through regulatory incentives. Delaware's "Green Industry" initiative promotes source reduction and recycling activities by providing technical assistance, special tax incentives and/or financial assistance. In order to qualify, industries must meet certain pollution prevention requirements. Those that meet the requirements receive technical assistance in a variety of areas, most notably, expedited environmental permits and support in seeking other state and local approvals.

Illinois facilities that voluntarily submit an acceptable "Toxic Pollution Prevention Innovation Plan" are provided special treatment, such as expedited processing of permit applications and support for variance requests, adjusted standards or site-specific standards. The pollution prevention plan effectively becomes the basis for rewarding participating industry under this approach. Facility planning requirements are currently included in nineteen state pollution prevention laws. Fourteen of these are mandatory; the remaining five laws encourage voluntary planning. In general, the cycle of facility planning for pollution prevention can be broken into four steps:

(1) Comprehensive review of all manufacturing and production processes that use, generate or release toxic or hazardous materials.
(2) Identification of possibilities for more efficient use or processing of all materials.
(3) Ranking, prioritizing and scheduling of the identified options according to criteria developed by the facility management.
(4) Implementation of selected options (including effectiveness monitoring).

State laws require similar elements to be included in facility pollution prevention plans. They include the following:

- A policy statement of management support for pollution prevention and a schedule for meeting those goals.
- A statement of reduction goals, the reasoning behind them and a schedule for meeting their goals.
- A description of past pollution prevention initiatives and an assessment of their success or failure.
- A detailed, numeric description of current processes that use toxic chemicals and/or generate wastes.
- Identification of pollution prevention options including product formulation changes, raw material substitution, equipment modification and/or maintenance/operating procedure changes.
- Detailed financial and technical analyses of the practical application of the identified options.
- Detailed criteria for selection of identified options for implementation.
- A detailed schedule for implementation of selected options and a procedure for measuring and monitoring their progress in achieving reductions.
- A description of opportunities for employee involvement and training.
- Certification by responsible corporate officials or facility managers.

Programs in many states emphasize regulatory integration of pollution prevention. Mechanisms for integration include the use of multimedia permits, incorporating pollution prevention into facility inspections, incorporating pollution prevention provisions into regulations and incorporating pollution prevention projects into enforcement settlement agreements. One approach to building cooperation and consensus to develop this type of incentives, outlined in Appendix B, is the "Pollution Prevention Partners" concept.

(1) **Multimedia Permits.** Since 1986, Massachusetts has been experimenting with developing a permitting approach that considers the entire facility by examining releases to all media at the same time. Inspections incorporate all media. In addition, when violations are found, facilities are encouraged to seek pollution prevention technical assistance from the state. Massachusetts has also initiated a program to coordinate the various media permits issued to facilities, and maintains permitting and inspection information on a centralized facility database. In 1991, New Jersey began a five-year pilot project which involves developing single, multimedia permits for three large facilities.

(2) **Incorporating Pollution Prevention into Inspections.** Many state and local environmental regulatory programs have incorporated pollution prevention into inspection activities for years, generally in the form of informal advice and referrals. Because an inspector from a regulatory agency is often the only on-site government representative, the inspector can provide information and/or direct the facility to other organizations for assistance. For example, the inspectors and engineers of the County Sanitation Districts of Los Angeles County who visit

and work with dischargers to publicly owned treatment works are trained to recognize pollution prevention opportunities and promote appropriate prevention actions. In Alaska, inspectors include a checklist of pollution prevention opportunities during routine inspections and refer businesses to organizations offering technical assistance if appropriate.

(3) **Incorporating Pollution Prevention Provisions into Regulations.** The Massachusetts Toxics Use Reduction Law provides that the state may establish, by regulation, performance standards for certain industrial sectors if the majority of facilities fall below a level of industrial efficiency achievable by "any reasonably proven, public domain technologies and/or industry practices," or if a significant number fall below the Massachusetts-based norm.[3]

(4) **Incorporating Pollution Prevention Projects in Enforcement Agreements.** According to a memorandum dated February 12, 1991 from James M. Strock the EPA Assistant Administrator for the Office of Enforcement, the current federal policy for incorporating pollution prevention into enforcement settlements is based on EPA's pollution prevention strategy. The strategy, published in early 1991, seeks to institutionalize a "pollution prevention ethic" to ensure that prevention becomes the preferred approach to confronting environmental problems. However, EPA continues to believe that a strong regulatory and enforcement program is critical to supporting its overall pollution prevention goals by preventing unreasonable risk through compliance assistance, enforcement and outreach activities. Virginia's regulatory agencies, with authority to enforce federal statutes delegated by EPA, are governed by the same general principles and therefore, the integration of pollution prevention into enforcement settlements represents a viable future option.

Based on EPA's guidance, during the settlement process compliance and enforcement programs have two basic avenues for promoting the pollution prevention ethic within the regulated community: (1) to use settlement conditions to require the respondent/defendant to use pollution prevention methods to redress the original violation and to achieve compliance; or (2) to include supplemental environmental projects (SEPs), involving a project (or projects) which reduces risks posed to human health and the environment beyond which would be required by law. SEPs, which are not designed to redress the original violations, are voluntary and flexible, allowing companies the opportunity to explore any number of options to both mitigate their penalties and benefit the environment. As noted in the February 1991 memorandum, EPA will consider five categories of projects as potential SEPs. They are (in order of preference): pollution prevention projects; pollution reduction projects; environmental restoration projects; environmental auditing projects; and enforcement-related environmental public awareness projects.

To date, there have been numerous settlements which incorporated pollution prevention projects. As this effort is in its infancy, however, several issues remain unresolved. These include the appropriate definition of pollution prevention, the different options available for pollution prevention allowed under different statutes, and the potential pollution prevention activities in settlements for multi-media cases.

Recommendation: A program with regulatory incentives for pollution prevention projects could be developed, to include the use of variances, demonstration multimedia permits, the incorporation of pollution prevention into inspections and regulations and enforcement settlements.

4. Pilot Programs

The VMA document suggests that public funds be used to develop pilot programs in one or more localities to develop public facilities for waste separation and other pollution prevention activities.

Recommendation: Demonstration source reduction programs (rather than recycling programs) at the local government or planning district commission level exploring opportunities for businesses, local governments and/or households could be encouraged.

5. Governor's Award Program

Although the current Governor's Environmental Excellence Awards are not limited to pollution prevention activities, the general award criteria of environmental stewardship is inclusive of pollution prevention. Awards have been given out for pollution prevention activities in each of the first two years of the awards.

Recommendation: Special recognition for pollution prevention activities could be incorporated into the existing awards program or a separate awards program could be established for pollution prevention.

6. Coordination with the Regulated Community

An advisory committee with varied representation was established when the Waste Minimization Program was initiated by the Department of Waste Management in 1988. As the program has undergone changes since then, the role of the advisory committee has diminished.

Recommendation: The original Waste Minimization Advisory Committee could be reestablished as the Pollution Prevention Technical Advisory Committee (or perhaps as a broader advisory committee to the Department of Environmental Quality) and charged with exploring issues such as regulatory flexibility and the use of innovative technology. The "Pollution Prevention Partnership" model may be appropriate (see Appendix B).

7. Innovative Technology/Approaches

Research on emerging technologies and other pollution prevention techniques is conducted by some state programs, industry and academia. Many state pollution prevention programs

conduct on-site research in the form of demonstration and pilot projects. State funded projects often involve both state and facility personnel. They typically cost between $50,000 and $200,000; for this reason, only high priority concerns can be addressed through state-funded research. Many states also offer modest grants or loans of $5,000 to $25,000 to facilities for pollution prevention research.

Recommendation: Pollution prevention research could be encouraged and expanded within Virginia state government, industry and universities.

Appendix A
Federal Legislation Impacting Pollution Prevention Activities

In addition to the Pollution Prevention Act of 1990, several recent or pending federal laws may have an impact on pollution prevention activities. In particular, the Clean Air Act of 1990 and the proposed reauthorizations of the Resource Conservation and Recovery Act and the Clean Water Act include provisions to encourage or mandate pollution prevention.

Clean Air Act Amendments, 1990. According to the Clean Air Act Amendments, Title I, The Air Pollution Prevention and Control, Section 101(a), the primary responsibility of air pollution prevention as well as air pollution control, should rest with the state and local governments. It additionally states that the primary goal of the Act is to encourage and promote federal, state, and local actions in the area of pollution prevention. In Section 102, the Act states that the EPA Administrator should encourage:

- Enactment of uniform state and local laws relating to pollution prevention.
- Agreements and compacts between states for pollution prevention. The Act allows for two or more states to negotiate and enter into agreements or contracts for cooperative effort and mutual assistance for prevention and establish agencies that will hasten such agreements or contracts.
- Coordination of functions of relevant federal agencies.

In Section 103, the Administrator is authorized to establish a national research and development program for prevention and control of air pollution. The Act also requires each state to establish a Small Business Assistance Office to provide regulatory compliance information, including pollution prevention assistance.

Resource Conservation and Recovery Act (proposed). The Resource Conservation and Recovery Act (RCRA) is currently under review by Congress for reauthorization; pollution prevention has figured prominently in the various bills circulated to date. One version (S. 976), which incorporates the so-called Right-to-Know More provisions, would require that facilities subject to the Toxics Release Inventory reporting requirement of EPCRA develop pollution prevention plans. The plans would be required to consider options and establish goals as appropriate for reducing the use of toxic chemicals, reducing the amount of waste generated and increasing in-process recycling at the facility as a whole and in targeted production processes.

To avoid issues of confidential business information, the plans would not be made public. Companies would be required to submit a plan summary describing the facility, identifying targeted production processes, identifying goals and describing measures to be taken to implement the plan. Progress reports would be submitted annually. The plan summaries and progress reports would be available to the public. EPA and/or states would be able to review

a plan only for completeness (not to evaluate the plan content).

The report accompanying the proposed legislation discusses the benefits of pollution prevention planning as well as the negative aspects of legislating a waste reduction goal or target:

> The planning requirements are meant to assist facility owners and operators in understanding the benefits of pollution prevention technologies. Although the plan requires facilities to set goals for three categories of pollution prevention, it may be appropriate for an owner/operator of a facility to determine, after analysis, that no improvement can be made in any particular category.... Mandatory Federal source reduction standards would be counterproductive because of the variety of industrial processes and products, different facility-specific conditions, and the need for innovative solutions to waste management problems.

As proposed, the law authorizes EPA to approve state pollution prevention programs for implementation in lieu of the Federal program. This delegation would be granted if a state could demonstrate that its program requires plans, summaries and progress reports and includes authority for conducting completeness reviews and for taking enforcement actions.

Clean Water Act (proposed). The Clean Water Act is also currently under review by Congress for reauthorization. The Water Pollution Prevention and Control Act of 1991 seeks to establish new initiatives to control and eliminate pollution, with special emphasis on pollution prevention. It specifically targets direct industrial dischargers as well as industries that discharge to publicly owned treatment works through provisions addressing pretreatment. Its focus on the goal of pollution prevention is also emphasized in provisions that would consider changes within a facility rather than just end of the pipe treatment when establishing minimum national technology based standards.

The law would also provide increased authority to prohibit highly toxic, bioaccumulative pollutants. But perhaps most significantly, it would require that point source dischargers demonstrate that steps to eliminate toxic discharges or minimize their toxicity or volume have been taken to the extent of their economic capability. Dischargers must show that there is maximum use of measures, processes, methods, systems or techniques to eliminate the discharge or reduce pollutant volumes and toxicity through process changes, material substitution, system enclosure or other modifications. Another provision of the law would require preparation of independent environmental audits for all dischargers who report toxic chemical releases under SARA Title III. Audit results could be used to identify pollution prevention opportunities and improve compliance in other environmental media.

Appendix B
Pollution Prevention Partnership

Overview

Since the initiation of Toxics Release Inventory reporting in 1987, Virginia has consistently ranked among the top twenty states for total releases/transfers (to the air, water and land) of toxic chemicals, alarming the public, local governments and industries. The resulting pressure to protect the environment, health and safety of our citizens, and the quality of life we all enjoy affords us an opportunity to address waste to our air, water and land in a comprehensive, proactive manner.

The majority of environmental protection programs currently existing in Virginia have been developed in response to federal legislative mandates. The Department of Air Pollution Control currently administers a regulatory program to address the federal Clean Air Act, as does the State Water Control Board in administration of the federal Clean Water Act. Under the Resource Conservation and Recovery Act (RCRA), the Virginia Department of Waste Management regulates the treatment and disposal of hazardous waste. The Department of Waste Management also administers the Emergency Planning and Community Right-to-Know Act (SARA Title III), which provides for chemical emergency response planning and chemical reporting, including the Toxics Release Inventory. All of these programs have differing mandates and extensive data requirements. Data collection is not well coordinated and does not form a comprehensive, useful database for future planning.

Section 104 (k) of the Superfund Amendments and Reauthorization Act of 1986 require that each state formulate a hazardous waste Capacity Assurance Plan, certifying their capacity to manage all hazardous waste generated for the next twenty years. Certification may be accomplished by using facilities within the state or through agreements with other states. As a result of this certification requirement, the Governor of South Carolina took immediate action to "lay claim" to privately owned commercial facilities which treat, store or dispose (TSD) of hazardous waste within South Carolina. The impact of recent developments in the U.S. Supreme Court and proposed action by the Congress on this issue remains unclear. Individual states can no longer be sure that TSD capacity will be available without a specific agreement with each state. Congressional requirements for "land bans" (RCRA subtitle C) have further limited the kinds of material that may be disposed in a landfill without treatment. The "land ban" places greater emphasis on the need for treatment facilities.

The combined impact of emergency chemical response requirements (SARA Title III), hazardous waste capacity assurance, and additional restrictions on waste management options (land bans) requires the Commonwealth to develop a multimedia (air, land and water) pollution prevention program. Our ability to adequately control air emissions, water discharges, and to manage the waste we generate is vital to ensuring Virginia's economic viability and protecting the health and well-being of our citizens.

Through coordination of these programs, we have an opportunity to maintain the high quality of life in Virginia. A multimedia pollution prevention partnership of state leaders, industry, the regulatory community, and public interest groups could develop a comprehensive, proactive approach to address the economic development/quality of life dilemma facing the Commonwealth.

Problem Identification

Virginia has approximately 500 large quantity hazardous waste generators (in excess of 1000 kilograms (kg) or 2200 lbs. of waste per month) and an estimated 2,000 small quantity hazardous waste generators (between 100 kilograms, or 220 lb. per month, and 1000 kg or 2200 lb. per month). Department of Waste Management records reveal that approximately 10 million tons of hazardous waste were generated in 1990 by Virginia industries. Of this total, 4,500,000 tons of acids and bases were generated and treated on-site at the Radford Army Arsenal in Radford, Virginia. Approximately 3,200,000 tons of acids and bases were generated and treated on-site at Aqualon, a company located in Hopewell, Virginia. Of the remaining hazardous waste, approximately 45,000 tons are transported to facilities located in about twenty different states.

Virginia also imports hazardous waste. Three Virginia industries receive wastes from about twenty states at a level which approximates the amount exported, about 40,000 tons. Oldover, Inc. imports about 33,000 tons of organic solvents which are used as a fuel blend for the production of aggregate material in Arvonia (Buckingham County) and Cascade (Pittsylvania County). In the City of Martinsville, Prillaman Company recovers imported waste solvents.

This information demonstrates that Virginia industries operate through the free market system by:

1. Purchasing and using chemicals in manufacturing and service industries;

2. Importing waste products from out-of-state industries for use in industrial processes, thereby fueling Virginia's industrial development;

3. And finally, exporting waste to out-of-state facilities for use in the industrial sector or for treatment or disposal.

As a result of the developing national legislative and regulatory initiatives, barriers to the free market export/import of hazardous waste between states will leave Virginia with little ability to assure our business and industries that they can maintain a competitive advantage. Loss of the competitive advantage will result in the loss of jobs unless the Commonwealth responds. Citizens of the Commonwealth want state leadership to address the environmental consequences of chemical emissions and still protect Virginia's outstanding economic development position.

Virginia "Pollution Prevention Partnership" Program

In addition to the creation of the Secretary of Natural Resources and the Department of Waste Management in 1986, Governor Baliles initiated a waste minimization program dedicated to preventing pollution in 1988. (This program is now known as the Waste Reduction Assistance Program - WRAP.)

Designed to assist state and local governments and Virginia industries to reduce the volume and toxicity of waste generated, the WRAP works to identify and reduce cross-media impacts. That is, measures to reduce solid or hazardous waste should not result in increased discharges to water or emissions to the air and vice versa. Building upon the this concept, **Pollution Prevention Partnership** is the Commonwealth's strategy to address the complex economic development/environmental conservation paradigm.

Virginia's **Pollution Prevention Partnership** is based upon the formation of an alliance of state government leadership, industry, government regulatory programs, and public interest groups.

(1) State Government Leadership: The Governor and the Secretary of Natural Resources, or their designees will provide overall leadership to implement the pollution prevention program.

(2) Industry: The chief executive officers of major Virginia industries will assist in the development and implementation of program activities which will address pollution prevention.

(3) Citizens/Public Interest Groups: Representatives from the public and key environmental interest groups will provide a third perspective and assist in the development and implementation of the program.

(3) Government Regulatory Programs: Representatives of the Commonwealth's regulatory agencies, specifically the Department of Waste Management, the State Water Control Board, and the Department of Air Pollution Control, will assist in targeting areas of concern. In addition, federally funded developmental programs such as the Chesapeake Bay Program and the Coastal Resources Management Program will target activities to complement the pollution prevention initiatives.

Strategy Components

The combined efforts of the **Pollution Prevention Partnership** will focus on three areas:

1. **Technology and research development:** Program efforts will focus on research and development of technologies that will enhance reductions in the toxicity and volume of chemical inputs in industry enterprise, thereby reducing the potential

for hazardous waste generation.

2. **On-site control program:** While priority will be assigned to the reduction of waste generation, treatment and disposal of wastes on-site will be preferred over management off-site but within the Commonwealth or outside the state.

3. **Facility siting program:** The program will focus on free market development of facilities needed to meet Virginia's industrial base. Lacking appropriate free market response, the Commonwealth will undertake a siting initiative consistent with the Capacity Assurance Plan.

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Chesapeake Bay Foundation

25th Anniversary

Environmental Defense - Environmental Education - Land Management

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Chesapeake Bay Foundation
Testimony to the Virginia Pollution Prevention Subcommittee
November 5, 1992

The established system of protecting the environment relies on complying with regulatory limits on the amount of pollutant that can be released to the environment. As we learn about the complexity of environmental problems and the irreversibility of the changes that are occurring, the need for preventing pollution in the first place becomes clear. CBF agrees with the recent statement that, "[W]e need a system that goes beyond adversarial inspections and engages business in a dialogue that ... makes clear the technical means and societal, [ecological], and financial rewards of going beyond compliance." [Spitzer, 1992].

Not only must business, industry and government be so engaged but the end result must be improvement of the environment.

After 20 years of regulation, Virginia still produces significant quantities of toxic pollutants. Of the chemicals required by the federal government to be listed on the Toxics Release Inventory (TRI), over 103 million pounds were released or transferred in Virginia in 1990. A recent ranking of states (the 1991-1992 Green Index) shows Virginia near the bottom in a variety of categories relating to toxics. For example, the Commonwealth ranked:

- 50th in nerve-damaging toxics released (ranked on a per capita basis of 25 chemicals on the TRI that cause damage to nerves or nerve tissue from exposure to very small doses);
- 49th in pounds of toxics chemical releases to surface water (source: 1988 TRI data);
- 46th in pounds of toxic chemical releases by industry to air (1988 TRI data);
- 46th for nine toxic water pollution indicators (composite of data for 9 indicators including data from 1988 TRI and USGS National Water Summary, 1985); and
- 41st for total toxic chemical release to environment (1988 TRI data).

These statistics clearly indicate that Virginia must find and promote innovative ways to better address the health, economic and environmental impacts from toxics, as well as other pollutants. Current regulatory and permitting programs such as, the NPDES water discharge permit program of the State Water Control Board, are extremely important and must be strengthened. However, the pollutants collected in traditional treatment processes must be disposed of or treated to reduce their damaging characteristics and ultimately, they are reintroduced in the environment. It is important to remember that toxics act very different from conventional pollutants (e.g. nutrients). Toxics can have adverse affects at levels as low as parts per million, parts per billion, or even parts per quadrillion. Additionally, the environment often can not cleanse itself of toxics as it can of conventional pollutants. Therefore, it is very important to substitute or eliminate toxic pollutants whenever possible.

A pollution prevention program would shift the emphasis from pollution control to actual prevention and elimination. Furthermore, pollution prevention programs aim at eliminating cross-media impacts by stopping the process of simply moving pollution from one environmental medium to another (e.g. removing pollutants from water and then putting the contaminated sludge into a landfill).

Pollution prevention also makes good business sense. One Virginia company spokesperson recently wrote: "Pollution prevention as an operative practice is totally consistent with industry's goals of competitiveness and efficiency. Prevention of product loss through improved operating practice and/or innovative technology represents improved yields and ultimately savings to our customers" (Lee Brown, Allied-Signal, 1992).

Pollution prevention strategies can reduce:
- production costs through savings on energy and raw materials;
- the need for expensive end-of-pipe technology and waste disposal practices;
- compliance costs (permits, monitoring, enforcement);
- long-term liability and insurance costs; and
- waste disposal costs.

In addition, pollution prevention often earns or enhances public goodwill and allows for examination of opportunities.

These benefits need not be restricted to large manufacturers. Many small businesses, local and state government agencies and agribusiness operations can benefit as well, if given the information and incentive to do so.

The intergovernmental regional Chesapeake Bay Program recognized these benefits in 1991 when Governor Wilder and his counterparts adopted a statement that pollution prevention should

be the first step or preference in the hierarchy of environmental protection measures.

An even greater emphasis is warranted if Virginia is to truly take advantage of the economic competitive, environmental and quality of life advantages offered by further expanding pollution prevention activities. As you have already heard, the clean-up of the Chesapeake Bay is potentially one of the biggest beneficiaries.

Therefore, CBF is pleased to offer the subcommittee these initial recommendations.

CHESAPEAKE BAY FOUNDATION RECOMMENDATIONS

1] Virginia should adopt a statutory definition for "pollution prevention" that focuses on source reduction, substitution, and elimination of pollutants.

One of the key components of any state's (including Virginia) pollution prevention initiative is a clear, concise definition of what activities the term "pollution prevention" includes.

According to the EPA, pollution prevention means source reduction and other practices that reduce or eliminate the creation of pollutants through:

- increased efficiency in the use of raw materials, energy, water or other resources, or
- protection of natural resources by conservation.

The Pollution Prevention Act of 1990 defines "source reduction" to mean any practice which:

- reduces the amount of any hazardous substance, pollutant or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and
- reduces the hazards to public health and the environment associated with the release of such substances, pollutants or contaminants.

CBF endorses a legislative definition of pollution prevention that would emphasize anticipating and avoiding or eliminating the generation of pollution at the source. Such a definition would promote the comprehensive evaluation of the total environmental impact of products and activities over their entire life cycle, from raw materials through manufacturing, use and disposal. Examples of pollution prevention that should be covered under the state's definition include:

- substituting non-toxic raw materials for toxic ones;

- redesigning products to make them less dependent on toxics;
- modifying manufacturing processes; and
- closed loop (in-process) recycling and/or reuse.

True pollution prevention does not include traditional pollution control (e.g., NPDES permit program), waste treatment, or external recycling. In addition, pollution prevention does not include activities than merely shift the risks associated with the pollutant. For example, a company that makes an adhesive product may reduce overall emissions, but simultaneously, incorporate the hazardous materials into the product. The risk is not eliminated, but rather transferred to the workers and consumers. CBF does not consider this type of action to be pollution prevention. Pollution prevention must consider the entire life cycle of the product and focus on actual source and use reduction.

The definition also does not include waste minimization. This is because waste minimization is not the same as pollution prevention. Waste minimization includes activities such as incineration which reduce the volume of waste after it is generated and which have their own associated risks. Pollution Prevention activities avoid or eliminate the production of waste at the source.

Furthermore, CBF recommends that the definition indicate that pollution prevention is the preferred approach to environmental protection. Such language would send a clear signal to regulatory agencies, funding sources, and the public of the State's commitment to this effort and should promote innovative programs to stimulate such activities.

2] Virginia should establish a target goal of 50% decrease over four years in the use and release of toxic substances.

As a signatory to the 1987 Chesapeake Bay Agreement and the Chesapeake Bay Toxics Reduction Strategy, Virginia has made a commitment to:

> "[t]he long term goal of ...a toxics free Bay by eliminating the discharge of toxic substances from all controllable sources. By the year 2000, the input of toxic substances from all controllable sources to the Chesapeake Bay will be reduced to levels that result in no toxic or bioaccumulative impacts on the living resources that inhabit the Bay or human health." (emphasis added)

In order to institutionalize this commitment, we suggest Virginia adopt a statewide toxics reduction goal of 50 percent. EPA's voluntary 33/50 Program has a goal to reduce the release of 17 chemicals by 50% by 1995. Currently, nine states have either established numeric reduction goals through their pollution

prevention legislation or require state officials to establish them. Six states (South Carolina, Ohio, Washington, New York, New Jersey, and Massachusetts) have statewide reduction goals of 50%.

3] Facility planning should be incorporated into Virginia's pollution prevention initiative.

Facility planning is a necessary element to any successful state pollution prevention initiative for many reasons. A recent article on state programs cited three: "First, nothing changes unless there is a plan. Second, the process of planning can reveal changes that are obviously good ideas, but are not discovered for lack of examination. Third, a plan can make pollution prevention self-sustaining: Implementation leads to measurable progress in pollution prevention, and that progress will lead to continuous reexamination." [Source: Foecke & Style, 1992.]

Facility planning is included in 19 states' pollution prevention legislation. These programs vary but they generally contain four main components:

1. A comprehensive review of all industrial processes that use, generate, or release toxic or hazardous materials;
2. The identification of pollution prevention opportunities in all processes in which toxic or hazardous materials are handled;
3. A ranking for each of these opportunities and a schedule for their implementation; and
4. The implementation of these options, including some measure of their success. [Source: Foecke & Style, 1992]

Merck Pharmaceutical's representative who testified before you last time regarding her suggestion that Virginia consider the approach that New Jersey has recently adopted on pollution prevention. A fundamental element of the New Jersey plan is a state-wide goal for reduction. New Jersey companies covered by the law must comply but they are given flexibility to establish their own goals and to engage in facility planning to identify, through a review of all of the processes in the corporation, pollution prevention possibilities. Massachusetts and other state programs have similar requirements. We believe such a process offers promise for Virginia as well.

4] Any Virginia pollution prevention initiative should include methods to measure actual reductions in the use or release of pollutants.

CBF strongly believes that any pollution prevention initiative must incorporate methods to determine measurable reductions. What is important is actual reductions in use and release of toxic and other pollutants, not the number of facilities participating or the

number of facility plans. Pollutant-based inventories such as the Toxics Reduction Inventory, nutrient management plans and pesticide use surveys, can be useful in measuring reductions.

Measuring actual reductions is a difficult issue to incorporate into a pollution prevention initiative but is absolutely necessary. Two general problems exist concerning obtaining meaningful measures of reductions. First is making sure that the data being used reflects true reductions in use or release. For example, in the Toxics Release Inventory (TRI), what can appear to be reductions often simply reflects a change in how releases are calculated and reported. For example, due to a change in reporting procedures that became effective for the reporting year 1990, ammonium sulfate (solution), which accounted for 23 percent of Virginia's releases and transfers reported for 1989, was not reported by any facility for 1990 simply because reporting requirements changed. Thus, it appears to be a reduction when in fact there is none.

Second, not only must total reductions be measured, but reductions of pollutants used per unit of production must be measured. This will show actual reductions made by pollution prevention efforts and will not be skewed due to reductions that occur because of a decline in production.

5] <u>Virginia should establish an assistance unit within state government and/or at its universities to help small businesses with pollution prevention strategies and facility planning.</u>

CBF recognizes that many small businesses may not have the personnel available to conduct comprehensive facility planning. However, Virginia may be able to utilize several existing and new programs to offer such assistance at minimal additional cost. Virginia's Interagency Multimedia Pollution Prevention Project has already begun to assist industries to reevaluate their processes to eliminate and/or reduce the volume and toxicity of emissions, discharges, and solid and hazardous waste. Such a program could be expanded to include small businesses.

Similarly, the creation of the new Department of Environmental Quality offers a unique opportunity to structure the organization to provide such expertise. Also, federal Clean Air Act Amendments of 1990 require each state to establish a Small Business Assistance Office to provide regulatory compliance information including pollution prevention assistance. To our knowledge, this office has yet to be created.

Another possibility exists with the expertise of Virginia's universities. EPA has established the "University-Based Assessments Programs". EPA has established three pilot programs at universities across the country to assist small and medium-size

manufacturers who want to minimize the formation of hazardous waste but who lack the in-house expertise to do so. Virginia should seek EPA assistance in setting up a similar program at one or more Virginia engineering universities.

6] The Subcommittee should carefully review the implementation plan to create the new Department of Environmental Quality (DEQ) to ensure that pollution prevention is appropriately defined and that a separate pollution prevention unit is created within the Department. The unit should be given over-arching responsibility for promoting and implementing pollution prevention activities both within DEQ and also for all state agencies and their clients.

The Department of Waste Management is to be commended for establishing a Waste Minimization Program a few years ago. CBF is encouraged that the state's new Department of Environmental Quality (DEQ) has as one of its primary missions the promotion of pollution prevention as a preferred alternative within the regulatory authority of its air, water, and waste boards. Pollution prevention, however, is not just simply a continuation of the waste minimization and recycling programs under a different name.

Our preliminary review of the just released final DEQ implementation plan raises several concerns. First, the implementation plan states:

> "the objectives designed to achieve this goal are waste minimization, re-use and recycling, enhanced technical and financial capabilities, effective permits and comprehensive air and water quality monitoring."

Further, the implementation plan states that:

> "the concept of pollution prevention, as envisioned for DEQ [includes] ... protecting the environment through improved regulatory performance. This means effective and timely permitting, appropriate and defensible regulations and long-term environmental planning."

While we recognize that these activities have value, we assert that these are not pollution prevention activities but are traditional control approaches. Regulatory efficiencies and appropriate regulations are not pollution prevention activities. We urge the Subcommittee to recommend changes to the implementation plan that would refocus DEQ's pollution prevention activities on source reduction, substitution, and elimination of pollutants. (See recommendation 1.)

7] The Subcommittee should be continued next year in order to devote further study of pollution prevention opportunities within the Commonwealth.

Pollution prevention strategies are applicable to a wide variety of activities. For example, one of the major advantages of a pollution prevention approach is its ability to address nonpoint sources of pollutants such as stormwater and agricultural runoff. Incentives which expand such pollution prevention activities as Integrated Pest Management (IPM) and nutrient management substitute knowledge for chemicals. This can save farmers money and result in the reduction of pesticide and fertilizer use rather than using more difficult and costly control mechanisms.

Government, too, is involved in a wide variety of activities that could incorporate pollution prevention measures. Those activities include operating sewage treatment plants, motor pools, prison facilities, and land use decisions. A discussion paper prepared by the International City/County Management Association will be provided to your staff so the Subcommittee can get some ideas on how local governments could benefit from your work.

CONCLUSION

In summary, CBF supports pollution prevention as the most cost-effective and environmentally sound approach to protecting the Bay and our environment in general. Pollution prevention is not a substitute for traditional control programs which have been successful in decreasing pollutants, particularly conventional pollutants. Any pollution prevention initiative should be encompassing of all types of programs to ensure that efforts do not result in cross-media impacts. We emphasize, however, that programs must be carefully designed and implemented so that true reductions of toxic and other pollutants are realized by avoiding or eliminating the pollution at the source.

One common fallacy of pollution prevention is that these initiatives must be entirely voluntary in order to be acceptable and successful. This is not necessarily the case and, in fact, there are compelling reasons to include certain conditions in pollution prevention programs. Statutes and regulations can be written to provide the flexibility that is so important in identifying and taking advantage of prevention opportunities. Setting performance standards or requiring facility plans still allows each company or entity to decide exactly <u>how</u> to achieve prevention goals. Such an approach ensures that laggards keep up with leaders and that progress is made across the board. Currently in Virginia only 13.6% of the eligible companies chose to participate in EPA's voluntary 33/50 Program. These companies release less than 15% of the pollutants reported for the Toxics Release Inventory. Clearly much more participation is needed if Virginia is to achieve its economic and environmental goals.

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U.S. Public Interest Research Group

National Association of State PIRGs

October 23, 1992

Honorable R. Edward Houck
Senate of Virginia
P.O.Box 7
Spottsylvania, Virginia 22553

RE: SJR 103 Pollution Prevention Study

Dear Senator Houck:

I am writing to express the comments of the U.S.Public Interest Research Group (U.S.P.I.R.G.) regarding Virginia's pollution prevention study. I am sorry that I am unable to attend the November 5 meeting to present these ideas in person, however, I trust they will still be useful to the study committee's work.

In case you are not familiar with us, U.S.P.I.R.G. is a non-profit, non-partisan environmental and consumer protection organization that achieves its goals of government reform and the promotion of a sustainable society through research, education, organization and advocacy. We have done extensive work with industry officials, state and federal government agencies, and citizens on toxics use reduction efforts and view the expansion of state pollution prevention programs as a significant step in achieving both environmental and economic benefits for society. In that regard, we commend you and Virginia on your current deliberations.

Based on our work across the country, we offer the attached summary of key points you should consider while developing the Commonwealth's Pollution Prevention Initiative. We reiterate the serious nature of this issue and wish you well in your efforts to address these concerns. U.S.P.I.R.G. will be pleased to provide any additional information you may require in the future.

Sincerely,

Carolyn Hartmann

Carolyn Hartmann
Staff Attorney

cc: Joseph H. Maroon

U.S. PIRG 215 Pennsylvania Avenue, S.E. Washington, D.C. 20003 (202) 546-9707

U.S.P.I.R.G. TESTIMONY - POLLUTION PREVENTION
SUMMARY OF KEY POINTS

The benefits of "source reduction" --- compared to hazardous waste recycling or treatment --- are well-recognized. "Toxics Use Reduction" (TUR) represents a fundamental approach to preventing chemical hazards in factories, on highways, on department store shelves and at home.

"Use reduction" and "source reduction" both target the production process and its products as the "source" of toxic chemicals. This source is what distinguishes pollution prevention from the managing or controlling of wastes. The idea of source reduction is to modify a production unit to the extent that it generates less waste. Toxics use reduction, on the other hand, addresses all three destinations of a toxic substance once it enters a production unit: the substance would either be put into the product, "consumed" by a chemical reaction into another material, or generated as waste.

"Toxics use reduction" explicitly promotes and evaluates reductions in terms of the front-end use of toxic chemicals. It is the use of toxic chemical that is the central link to an array of toxics-related hazards -- which do not stem from wastes and emissions. In particular, reductions in chemical use can prevent serious hazards due to (i) toxic consumer products, (ii) workplace risks and (iii) chemical accidents during transport, storage or processing.

Consumer exposure from toxic products. Consumers are exposed to toxic products that are used or installed in homes and offices. Household products such as paints and cleaners often contain toxic constituents. A wide spectrum of toxics are also contained in insulation, floor tiles, carpeting and adhesives.

The risks posed by the use of a toxic chemical in a product are completely distinct from the risks associated with manufacturing emissions. Recent EPA studies indicate that for many people, their annual indoor exposure to toxic chemicals is likely to be much higher than outdoor exposures due to toxic emissions. Furthermore, the subsequent disposal of toxic products presents a "second stage" of toxic pollution.

Toxics use in the workplace. Millions of workers in the United States are routinely exposed to toxic chemicals in the workplace. Unfortunately, policy development directed at this toxic threat is somewhat thwarted by the separate laws, agencies and academic disciplines dealing with the environmental and occupational effects of toxic chemicals. Toxics use reduction offers a strategy that is applicable to the mutual concern of both environmental and occupational health advocates.

Transportation and on-site accidents. Thousands of accidents each year are linked to uses of toxic chemicals and are not related to

the amounts that are wasted. Accidents from chemical processing and storage also pose a serious threat. The daily litany of "near misses" and other "minor" accidents does not reveal the catastrophic potential of chemical accidents. Communities are only beginning to grapple with the staggering risks associated with the storage and use of hundreds of billions of pounds of toxic chemicals.

* * * *

Toxics use reduction helps to solve these multiple problems. It should be the preferred prevention strategy for all industries that are users of toxic chemicals. Industries should be encouraged to find safer inputs for their products, reduce ancillary use and manufacture and sell less-toxic materials.

Prevent the shifting of risks. Use reduction is a necessary response to the "toxics shell game" that shifts hazards from one medium to another. Unfortunately, efforts that seek only to reduce wastes may shift toxics into the workplace or into consumer products. For example, New Jersey government scientists cautioned that a company might shift benzene from its waste stream into its product, such as a commercial cleaner, and then show "source reduction" progress. Only attention to the full pattern of chemical use can avoid such toxics shifting.

Emphasis on front-end innovation. Many companies have difficulty with prevention because for many years they have been preoccupied with waste management and the back end of the production process. The source reduction mindset is geared to wastes, so the engineers asked to solve waste problems overemphasize waste avoidance, such as better housekeeping and closed-loop recycling.

In contrast, toxics use reduction focuses on the front end of the production process: the materials entering the process and the design of products. Thus, TUR directly stimulates thinking and innovation toward changes in production processes, product development and safe substitutes.

Toxics use reduction also avoids the tendency to muddle "source reduction" with end-of-pipe waste processing, such as recycling or treatment. It challenges the unspoken barrier which insulates a firm's production decisions from environmental considerations.

There is mounting recognition of toxics use reduction as a key pollution prevention strategy. In the last two and a half years, state legislators have passed laws to explicitly promote the reduced use of toxics in Massachusetts, Oregon, Washington, California, Illinois, Indiana, New Jersey, Arizona, Connecticut, Iowa, Maine and Vermont. Industry groups often endorse these laws. Business is increasingly accepting of and comfortable with the "toxics use reduction" concept.

For the first several years of a federal toxics use and source reduction program, we see little need to mandate specific amounts of reductions by companies. There are two primary reasons. The first is that we should capitalize on existing pressures to push companies to practice reduction, ranging from Superfund liability to the high costs of waste disposal. The immediate obstacle to toxics use reduction is the tremendous inertia which keeps companies from fundamentally changing the way that they do business. The second reason is that government, with some exceptions, has not obtained sufficient data and expertise to set such standards. Toxics use and source reduction is a new dynamic field which no one understands well enough to regulate effectively quite yet.

In a few years, however, this situation will have changed. Some companies will prove to be the leaders in toxics use reduction, and others will move slowly or not at all. At that point, it would be appropriate to provide more regulatory guidance. EPA can analyze public reporting (and other data) and then, for selected industrial sectors, begin to set performance standards that require the laggards to achieve what the leaders have achieved.

* * * *

There have been many anecdotes put forth on the economic benefits of practicing toxics use and source reduction. Such anecdotes describe how a company had saved money by implementing reduction measures in order to avoid raw material and waste handling costs, regulatory expenses and environmental liabilities.

The Kiefer Built Company, for instance, is saving $96,000 annually by adopting equipment to reduce the use of paint solvents at its Iowa facility. Merck & Co. saved $280,000 in 1989 through a process in pharmaceutical manufacturing, with no capital expenditures for new equipment.

The view of the innovation-stimulating potential of environmental regulation is becoming more widely held. For example, Michael Porter, of the Harvard Business School and the author of <u>The Competitive Advantage of Nations</u>, recently wrote, "The conflict between environmental protection and economic competitiveness is a false dichotomy." He added that, "Strict environmental regulations do not inevitably hinder competitive advantage against foreign rivals; indeed, they often enhance it." He concludes "Turning environmental concern into competitive advantage demands that we establish the right kind of regulations. They must stress pollution prevention..."

Toxics use and source reduction is a means by which we can act positively to combine ecology with economic, thus moving a few steps closer to achieving a truly stable, healthy society. By preventing the ever-increasing use of toxic chemicals, we will move forward into an age of clean, safe and efficient technologies.

IRGINIA MANUFACTURERS ASSOCIATION
P.O. Box 412, Richmond, Virginia 23203, 804-643-7489, FAX 804-780-3853

December 16, 1992

The Honorable R. Edward Houck
P. O. Box 7
Spotsylvania, Virginia 22553

Re: VMA's Recommendations to the SJR 103 Joint Subcommittee on Pollution Prevention

Dear Senator Houck:

On behalf of the Virginia Manufacturers Association (VMA) Subcommittee on Pollution Prevention, I would like to submit the following recommendations to the SJR 103 Joint Legislative Subcommittee. Our suggestions are in keeping with the Resolution's direction "to assess the costs and benefits of additional legislative actions which would eliminate barriers to, and create incentives for, preventing pollution."

During the 1992 General Assembly session, when a pollution prevention study resolution had failed in the House and you called on VMA's assistance on your proposal, it was our pleasure to work with you and representatives of the Chesapeake Bay Foundation on the wording of a resolution which was agreeable to all parties. It was our privilege to assist in the passage of SJR 103, and our members subsequently have worked many long hours to produce suggestions which promote a healthier environment for Virginia.

Recommendations:

VMA strongly supports a pollution prevention program for Virginia which would be similar to the Connecticut Technical Assistance Program (ConnTAP). A summary of the ConnTAP program is attached at the back of our recommendations as Appendix D. This program was described by Connecticut officials to the SJR 103 Legislative Subcommittee. It is a voluntary program which includes on-site technical assistance from retired engineers plus various forms of financial assistance. Although our state may not have the financial means to pursue this type of program fully at the present time, we would like to investigate whether EPA grants or other monies might be available to assist in implementing such a plan in the future.

In the meantime, we would like to suggest the following three types of measures which could significantly increase pollution prevention activities and which we believe would have little if any fiscal impact on the state:

1. Regulatory Incentives (Appendix A)

   a. Civil penalties -- using a portion to promote pollution prevention activities.
   b. Regulatory alternatives.

2. Financial Incentives (Appendix B)

   a. Tax exemption for pollution prevention equipment (comparable to the existing measures for pollution control equipment and recycling equipment).
   b. Tax exempt bonds for financing pollution control facilities.

3. Other Suggestions (Appendix C)

   a. Governor's awards program.
   b. Avoiding statutory definition of pollution prevention at this time.

All of these recommendations are detailed in the attachments which follow. We suggest that the regulatory and financial incentives be enacted as the "Pollution Prevention Act of 1993."

Thank you for considering our proposals.

Sincerely yours,

Carol C. Raper

Carol C. Raper
Vice President
and General Counsel

CCR:ml
Enclosures

cc: Members of the SJR 103 Joint Subcommittee
VMA Pollution Prevention Subcommittee

Mr. Joseph H. Maroon, Executive Director
Chesapeake Bay Foundation
Mr. Harry E. Gregori, Jr., AICP
Virginia Department of Waste Management
Franklin D. Munyan, Esquire, Division of Legislative Services

VIRGINIA MANUFACTURERS ASSOCIATION

PROPOSED REGULATORY INCENTIVES

Civil Penalties:

Section 10.1-1316 of the State Air Pollution Control Law provides for payment of consent penalties on civil charges by violators in settlement of enforcement actions brought by the Board. A similar provision is contained in Section 10.1-1455F of the Code under the Virginia Waste Management Act, and in Section 62.1-44.15(8d) of the Code, which pertains to civil penalties imposed by the State Water Control Board.

The Virginia Environmental Emergency Response Fund, which is established under Section 10.1-2500 of the Code, is designed to receive, among other things, civil penalties and civil charges paid by violators either by consent or by court order. The Emergency Response Fund is designed to do just as its name implies, i.e., provide the State with capability to respond to environmental emergencies and to implement clean-up and corrective action in appropriate cases.

In order to provide incentives for pollution prevention, we suggest that the foregoing Code sections be amended to allow the abatement of up to 50% of the civil charge for expenditures made by the violator within a certain period of time for authorized pollution prevention projects. The remaining civil charges would be paid to the Emergency Response Fund without change. If the violator chose to settle by payment of civil charges but decided not to spend money on a qualified pollution prevention program, civil charges paid by that violator would be divided equally between the Emergency Response Fund and a new "Virginia Pollution Prevention Fund" which would be used to provide information and technical assistance to Virginia businesses in evaluating and implementing pollution prevention opportunities. Monies in the Virginia Pollution Prevention Fund would not be granted directly to businesses but would be used to pay for assistance and information programs.

By splitting the money equally between the two funds, and by providing for only a portion of civil charges (i.e., consensual penalties paid to settle cases with agencies) to go to the Pollution Prevention Fund, it will probably be easier to avoid concerns about depleting the Virginia Emergency Response Fund. That Fund receives monies from other sources, such as court-imposed civil penalties, which would not be affected by the proposed initiative.

Abatement of civil penalties and civil charges for expenditures on pollution control projects is something that is not unknown to Virginia agencies, and a number of cases have been settled this way. Providing for a statutory alternative that would either result directly in implementation of pollution control measures by violators seeking to avoid a portion of their civil charges, or that would result in assistance to statewide pollution control efforts by payment of civil charges

to a fund, would provide a more direct incentive to dispose of cases in this way.

Regulatory Alternatives:

We suggest providing a legislative mandate to Virginia Environmental Agencies to construe their regulatory authority liberally to approve compliance alternatives that result in prevention or reduction of pollution, and that are equally protective of the environment. As you know, there are already provisions in the State Air Pollution Control law and the State Water Control law for the agencies to give consideration to economic factors as well as environmental benefits in establishing regulations. For example, Section 62.1-44.15(3a) provides that whenever the State Water Control Board considers the adoption, modification or amendment of a water quality standard, it must give due consideration to the economic and social costs and benefits which can reasonably be expected from the Board's action. The State Air Pollution Control Board, under Section 10.1-1307E of the Code, is required to consider such things as the social and economic value of the particular activity, and the scientific and economic practicality of reducing or eliminating pollution resulting from the activity.

We suggest that a standard clause be prepared to be inserted into those portions of the Code authorizing the major environmental agencies, i.e., the State Water Control Board, the State Air Pollution Control Board and the Virginia Waste Management Board, to construe and apply their authority in such a way as to ensure that adequate consideration is given to workable pollution prevention alternatives where appropriate. Such language could read as follows:

> The Board, in adopting and implementing its regulations and policies hereunder and in issuing permits, certificates and authorizations for activities regulated under this chapter, shall encourage and give thorough consideration to alternatives that will result in the reduction or elimination of pollution, provided that such alternatives afford an equal level of protection to the environment and public health as would be obtained by conventional technology. In denying the use of an alternative strategy or approach that meets the foregoing criteria, the burden shall be on the agency to justify the reasons for denial.

Under current law and practice, some agency personnel do allow alternative approaches. Statutory language like that suggested above would provide agency personnel a "safe harbor" for considering and allowing such alternatives. Without specific authority, some regulators are understandably hesitant to vary from traditional practices or regulatory provisions.

VIRGINIA MANUFACTURERS ASSOCIATION

PROPOSED FINANCIAL INCENTIVES

TAX EXEMPTION FOR POLLUTION PREVENTION EQUIPMENT

State law currently provides favorable tax treatment (exemptions and/or credits) for pollution control equipment and recycling equipment. We suggest that a similar "tax break" be provided for pollution prevention equipment. We offer the following proposal as an approach which may achieve this goal:

Va. Code Ann. § 58.1-3660.B

..."Certified pollution control equipment and facilities" shall also include any equipment or facilities, whether voluntarily acquired or acquired in conformity with state programs or requirements for the prevention, abatement or control of pollution or contamination in any medium, which the state certifying authority having jurisdiction with respect to such property has certified to the Department of Taxation will (i) reduce the amount of any pollutants or contaminants entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and (ii) reduce the hazards to public health and the environment associated with the release of such pollutants or contaminants.

There may be other statutory changes which could also achieve this goal.

Rationale

Pollution reduction appears to be an overall goal we are all seeking. At the present time, tax incentives are provided only for "pollution control" and "recycling" equipment, as they are defined in the Virginia Code. We understand that the current Code provisions may not include other types of pollution prevention/reduction equipment. In effect, the Code currently provides a disincentive for the purchase and use of equipment intended to accomplish what is traditionally thought of as "pollution prevention." State law should encourage pollution prevention, and should certainly not encourage taxpayers to favor "pollution control" or "recycling" over and above "pollution prevention" because of the existence or nonexistence of a tax break. The proposed statutory amendment is designed to create a "level playing field" among viable options for reducing pollution entering air, water, landfills, etc.

Potential Fiscal Impact

When companies purchase equipment, they typically have overall goals in mind. It appears unlikely that a company woul undertake entirely separate programs for pollution control, recycling, and pollution prevention. It would be more likely for a company to design one program and purchase the equipment to implement that program. Therefore, we would foresee that companies would use one or the other of the tax options, and no "double up." The proposed statutory change would allow companies more options and latitude in planning effective pollution-reduction programs, using a variety of approaches, bu should not significantly increase the loss of revenue to the state or localities.

It was reported in the Virginia Register that equipment certified as recycling equipment in the last year totaled approximately $350,000. We do not know the value of the equipment certified for pollution control. Whatever these figures are, we do not anticipate that the proposed change woul cause these overall figures to increase significantly. Rather, essentially the same revenue impact would be spread among more categories of qualifying equipment.

VIRGINIA MANUFACTURERS ASSOCIATION

POLLUTION PREVENTION SUBCOMMITTEE

SUMMARY OF PROPOSED LEGISLATIVE INITIATIVE REGARDING THE AVAILABILITY OF TAX-EXEMPT BONDS FOR POLLUTION CONTROL FACILITIES

Goal

One of the goals of the Pollution Prevention Subcommittee of the Virginia Manufacturers Association is to encourage the installation of pollution prevention and control facilities by reducing the costs related to the installation of such facilities. One way to reduce such costs is to make more tax-exempt bonds available for the financing of such facilities. Since the interest rates on tax-exempt bonds are generally lower than the interest rates on taxable financings, the use of tax-exempt bonds will lower the aggregate cost of installing such facilities.

Facilities That May be Financed

Federal Law

Federal law governs the types of facilities that will qualify for tax-exempt financing. Generally, facilities that we think of as pollution prevention and control facilities qualify under federal law as "solid waste disposal facilities," "sewage facilities" or "qualified hazardous waste facilities." Facilities characterized under federal law as "facilities for the furnishing of water" may also have a pollution prevention or control component. Since the definitions of these terms are governed by federal law, there is little that the Virginia General Assembly can do to expand the types of facilities that may qualify for tax-exempt financing. For convenience, references in this document to pollution control facilities will be deemed to mean those facilities that will prevent or control pollution and that will qualify for tax-exempt financing under federal tax laws.

State Law

To obtain tax-exempt financing for its pollution control facilities, a private business it must work through its local industrial development authority. The Virginia Industrial Development and Revenue Bond Act contains a fairly broad definition of the types of facilities that may be financed by local industrial development authorities. The definition encompasses all of the pollution control facilities that could be financed on a tax-exempt basis under federal law.

Bonds issued by a local industrial authority are always exempt from Virginia taxation. A business could finance through a local industrial development authority facilities that will not qualify for an exemption from federal taxation but will qualify for a exemption from Virginia taxation. The state tax exemption alone, however, is of little benefit. It is rarely worth the time and effort of working through the local industrial development authority to secure this small benefit.

Extent to Which Facilities May be Financed

Federal law limits the amount of bonds that are exempt from federal income taxation that can be issued in each state in each calendar year for privately owned and operated facilities, including pollution control facilities. That limit, which is referred to as the "state ceiling," is $50 per person residing in the state. Virginia law governs how the state ceiling is allocated each year in Virginia. Accordingly, the Virginia General Assembly has the power to make a greater proportion of the state ceiling available for pollution control facilities.

Current Method of Allocating State Ceiling

The provisions of Chapter 33.2 of Title 15.1 of the Code of Virginia of 1950, as amended, and certain regulations promulgated by the Virginia Department of Housing and Community Development allocate the state ceiling each year in Virginia. Pursuant to the Virginia Code, 41% of the state ceiling is held available for housing projects, 41% is held available for industrial development projects, including pollution control facilities, 8% is held available for student loan bonds and 10% is held available for projects of state issuing authorities and for projects of state or regional interest, as determined by the Governor. Further, §15.1-1399.16 of the Virginia Code provides that any unused allocation remaining at the end of each calendar year (except the allocation made to state issuing authorities or projects of state or regional interest) can be reallocated in accordance with the regulations promulgated by the VDHCD.

The VDHCD regulations currently provide that at the end of each calendar year, the Virginia Housing Development Authority has the option to retain for its own purposes any unused state ceiling originally allocated to housing projects or to transfer that unused state ceiling to VDHCD to be allocated to other purposes. Similarly, the VDHCD regulations currently provide that at the end of each calendar year, the Virginia Education Loan Authority has the option to retain for its own purposes unused state ceiling originally allocated to student loan bonds or to transfer that unused state ceiling to VDHCD to be allocated to other purposes. It has not been the practice of VHDA or VELA to return any unused portion of the state ceiling to VDHCD.

Proposed Method of Allocating State Ceiling

The Pollution Control Subcommittee does not propose to change the formula for initially allocating the state ceiling each year. The Subcommittee recognizes that there are legitimate needs for tax-exempt financings for housing projects, student loan bonds, state issuing authority projects and projects of state or regional interest.[2] Accordingly, the initial allocation of 41% of the state ceiling to housing projects, 41% of the state ceiling to industrial development projects, 8% of the state ceiling to student loan bonds and 10% of the state ceiling to state-related projects should remain the same.

The Subcommittee proposes to amend §15.1-1399.16 of the Virginia Code to change the way that allocations of the unused portion of the state ceiling are made at the end of each calendar year. The effect of the changes will be to permit any portion of the state ceiling that is not used or "spoken for" as of November 1 of each year to be used for pollution control facilities. If there are not enough pollution control facilities to use all of the remaining state ceiling, then any remaining unused portion of the state ceiling will be returned to VHDA or VELA or again held available for other industrial development or state-related projects. In effect, pollution control facilities will be given a right of first refusal on any unused portion of the state ceiling available as of each November 1. Since only that portion of the state ceiling that is unused late in the year will be subject to this change, there should be no hardship to the programs of VHDA or VELA or to state-related programs.

Attached to this Summary is a comparison of the existing language of §15.1-1399.16 with the proposed language.

Impact of Proposed Changes

The proposed changes will have no direct impact on state revenues or expenditures. Similarly, the proposed changes will have no direct impact on other state programs monitoring, encouraging or enhancing the development of pollution control facilities.

The circumstances that existed on November 1, 1992 show how the proposed changes may encourage the development of pollution control facilities. As of November 1, 1992, approximately $104 million of the state ceiling for industrial development projects, including pollution control facilities, was

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2 The Subcommittee also recognizes that the federal laws change periodically and that categories of projects that are eligible for tax-exempt financings today may be ineligible tomorrow, and vice versa.

unused. Four large pollution control facilities had submitted requests for allocations totaling approximately $165 million. Fortunately (at least for the remaining projects), one of the large projects was delayed until 1993, so all of the remaining financings that could have gone forward in 1992 did so. If that one project had not been delayed, however, two of the financings could not have gone forward and the amount of a third one would have been reduced. The proposed changes may help to alleviate this potential problem by making more of the unused state ceiling available for pollution control facilities.

Pollution control facilities are not unlike other capital improvement projects. They can be quite expensive and time-sensitive. As the risk and costs associated with a capital improvement project increase, the chances of that project coming to fruition decrease. By making more of the state ceiling available for pollution control facilities, we have decreased the risk that no state ceiling will be available. If more tax-exempt bonds are available for pollution control facilities, we have decreased the cost of installing those facilities. The reduced risk and cost will encourage the development of pollution control facilities in Virginia.

§ 15.1-1399.16. Reallocation of bond authority. -- The allocation formulas prescribed in this chapter are established to utilize the entire state ceiling on private activity bonds by providing issuing authority to housing and industrial development projects. The allocation formula provided in § 15.1-1399.14 for housing, industrial development, student loans and the state allocation shall be effective through ~~November 1 of each calendar year. The allocation formula in § 15.1-1399.14 for housing shall be effective through September 1~~ October 31 of each calendar year.

Any ~~unused~~ bond authority remaining in any category ~~after the effective period~~ on November 1 of ~~the allocation~~ each calendar year which has not been held available for a particular bond issue which is scheduled to close by December 15 of that calendar year shall be reallocated to ~~housing~~ sewage, solid waste and ~~industrial projects and~~ qualified hazardous waste disposal facilities, according to regulations established by the Board of Housing and Community Development. Any such bond authority not utilized for sewage, solid waste or qualified hazardous waste disposal facilities by December 15 shall be reallocated to housing, industrial development, student ~~loan bonds~~ loans and the state allocation in the same proportion in which allocations were made available in accordance with the next preceding sentence, according to regulations established by the Board of Housing and Community Development. The regulations shall also provide a priority system for the allocation of any remaining unused bond authority at year-end to projects that are eligible to carry forward issuing authority to later years. ~~The provisions of this section shall not apply to the amount of the state ceiling set aside for the state allocation during any calendar year.~~

VIRGINIA MANUFACTURERS ASSOCIATION

POLLUTION PREVENTION SUBCOMMITTEE

SUMMARY OF PROPOSED LEGISLATIVE INITIATIVE REGARDING THE AVAILABILITY OF TAX-EXEMPT BONDS FOR POLLUTION CONTROL FACILITIES

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Facilities That May be Financed

Federal Law

Federal law governs the types of facilities that will qualify for tax-exempt financing. Generally, facilities that we think of as pollution prevention and control facilities qualify under federal law as "solid waste disposal facilities," "sewage facilities" ~~and~~ or " qualified hazardous waste facilities." ~~To a much lesser extent, facilities~~ Facilities characterized under federal law as "facilities for the furnishing of water" may also have a pollution prevention or control component. Since ~~these~~ the definitions of these terms are governed by federal law, there is little that the Virginia General Assembly can do to expand the types of facilities that may qualify for tax-exempt ~~financing.[1]~~ financing. For convenience, references in this document to pollution control facilities will be deemed to mean those

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~~1 The Virginia Industrial Development and Revenue Bond Act contains a fairly broad definition of the types of facilities that may be financed by local industrial development authorities. Bonds issued by a local industrial authority are exempt from Virginia taxation. It is, therefore, possible for a business to finance through a local industrial development authority facilities that do not qualify for an exemption from Federal taxation but will qualify for a exemption from Virginia taxation. The state tax exemption, standing alone, is a small benefit. It is rarely worth the time and effort of working through the local industrial development authority to secure this small benefit.~~

GOVERNOR'S AWARDS PROGRAM

VMA supports the Governor's Environmental Excellence Awards Program. This program might be modified to highlight, or grant a special award for, pollution prevention. We would also suggest the following refinements to this worthwhile program:

1. Provide clearly-stated criteria for the award to all potential applicants in advance.

2. Ensure more news coverage prior to the awards ceremony explaining the purpose, categories, etc. of the awards program.

3. Provide broader news coverage of the awards ceremony.

4. List past winners, where appropriate, in brochures, programs, and press releases.

5. Compile and publish all applications so that a large audience can learn about the positive environmental efforts going on in our state and perhaps emulate them.

VMA asks the SJR 103 Pollution Prevention Joint Subcommittee to recommend the foregoing to the Governor and Secretary of Natural Resources.

DEFINITION OF POLLUTION PREVENTION

During the course of the hearings, some suggestions were submitted concerning the need to define pollution prevention. Most of the proposals were intended to reduce the scope of those activities which would qualify as "pollution prevention."

The overall goal of the study was to identify and recommend incentives to promote voluntary efforts to reduce pollution. Any alternative to "end of pipe" treatment which reduces pollution should be promoted by the Commonwealth. Whether a particular activity would meet a narrow definition for "pollution prevention" is not the critical issue. If an activity reduces the amount of pollution generated and disposed of in the Commonwealth (including recycling and similar activities), it should be promoted.

There is no need to develop a statutory definition as there is no regulatory or statutory program requiring such a definition. Instead, the study should maintain its broad and flexible approach and focus its activities on those legislative activities which would promote greater voluntary efforts in this area. Whether a particular activity is or could be classified as pollution prevention or waste minimization or pollution reduction is immaterial. All such efforts should be encouraged.

The adoption of a single definition at this juncture will only have the effect of limiting the scope of any incentive program recommended by the Study Commission and should be avoided. Instead, the Study Commission should develop recommendations which would promote pollution prevention, waste minimization, pollution reduction and reuse -- the entire EPA hierarchy.

Appendix K

Chesapeake Bay Foundation

25th Anniversary

Environmental Defense - Environmental Education - Land Management

Suite 815, Heritage Building • 1001 E. Main Street • Richmond, Virginia 23219
(804) 780-1392 • Fax (804) 648-4011

December 8, 1992

The Honorable R. Edward Houck
Senate of Virginia
Post Office Box 7
Spotsylvania, Virginia 22553

Re: Elements For A Virginia Pollution Prevention Act

Dear Senator Houck:

As requested, the Chesapeake Bay Foundation (CBF) offers the attached suggestions for inclusion in a Virginia Pollution Prevention Act should the SJR 103 Joint Subcommittee decide to pursue such legislation in 1993. CBF believes that legislative direction such as recommended herein is necessary if the Commonwealth is to take advantage of the economic and environmental benefits pollution prevention initiatives offer over traditional end-of-the-pipe pollution control approaches.

Whether or not the Subcommittee finds it is able to present a bill in 1993, CBF respectfully recommends that the study be continued for an additional year in order to investigate the full range of economic incentives and funding issues as well as additional opportunities within both the public and private sectors relating to pollution prevention. In addition, the Subcommittee could help provide legislative guidance and support in the development of an appropriate pollution prevention program within the new Department of Environmental Quality (to be established April 1993).

CBF looks forward to discussing these proposals with you and the Subcommittee on December 18. If we can provide any additional

information before then, please feel free to contact me. Thank you in advance for considering our ideas.

Sincerely,

Joseph H. Maroon
Virginia Executive Director

cc: SJR 103 Subcommittee, staff

CHESAPEAKE BAY FOUNDATION
PROPOSED ELEMENTS FOR A VIRGINIA POLLUTION PREVENTION ACT

Introduction

Traditional pollution control approaches have achieved only limited success in Virginia and elsewhere because they focus on the difficult task of addressing a problem after it has been created. "Pollution prevention", in contrast, focuses on methods that prevent the cause of the problem. Thus, as more and more has been learned about the long-term environmental and public health effects of toxics and other pollutants, prevention initiatives offer perhaps the most effective solution both environmentally and economically.

The nation's business community has also discovered the benefits of pollution prevention. For many businesses, pollution is recognized as an indication of process and product inefficiencies and a drain on the "bottomline". Pollution prevention, on the other hand, provides one of the most economical ways to attain a long-term competitive advantage. Consequently, groups like the national Chemical Manufacturer's Association have pledged the commitment of their member companies to pollution prevention activities, including facility planning.

Both environmental and public health organizations recognize the potential benefits that can be derived from pollution prevention. Thus, pollution prevention provides a prime opportunity for a wide range of interests (public and private, business and non-profit) to work together to achieve mutual goals. One example of such a partnership occurred in Massachusetts where that state's Toxics Use Reduction Act was a cooperative effort of the Associated Industries of Massachusetts and the Massachusetts Public Interest Research Group. (The legislation passed both houses of the legislature unanimously.)

The Chesapeake Bay Foundation submits the following proposals for the SJR 103 Joint Subcommittee's consideration. Our initial set of recommendations focus on definition, target goals, facility planning, and financial and technical assistance. (Please note that CBF has not recommended that the Commonwealth require facilities to achieve a certain amount of reduction in toxicant use or release. Nor has CBF elected to propose how a facility must achieve a reduction, or when reduction must be achieved. Rather, these decisions should be left to the facility managers, perhaps with state guidance.)

It is our hope that Virginia, like several other states, can fashion a sound and effective pollution prevention initiative that is widely recognized as beneficial for both economic and environmental interests within the Commonwealth.

1] Definition

PROPOSAL:

Virginia should adopt the following definition for pollution prevention:

<u>Pollution prevention</u> is in-plant changes in production processes, activities or raw materials that reduce, avoid, or eliminate the use of toxic or hazardous substances or generation of hazardous by-products per unit of product, so as to reduce risks to the health of workers, consumers or the environment, without shifting risks among workers, consumers, or parts of the environment. Pollution prevention shall be achieved through any of the following techniques:

1. **Input substitution**
2. **Product reformulation**
3. **Production unit redesign or modification**
4. **Production unit modernization**
5. **Improved operation and maintenance**
6. **Internal recycling, reuse, or extended use of toxics**

Pollution prevention shall <u>not</u> include:

1. **any action or change entailing a substitution of one toxic substance for another;**
2. **substituting one product or nonproduct output for another that results in the creation of substantial new risk;**
3. **treatment or increased pollution control; or**
4. **in any way be inferred to promote or require incineration, transfer from one medium of release or discharge to other media, off-site or out-of-product unit waste recycling, methods of end-of-pipe treatment of toxics as waste.**

RATIONALE:

- The definition establishes the foundation on which the program is built. All other components of a program flow from its definition.

- For all parties involved, clearly defining pollution prevention helps eliminate confusion concerning what activities actually constitute pollution prevention.

- CBF endorses a definition that would emphasize anticipating and avoiding or eliminating the use of toxic substances and the generation of toxic pollution <u>at the source</u>. Reductions of

releases places emphasis on control after the toxic substance is used or generated. Release reductions are only a part of genuine pollution prevention.

- Such a focus on use and release reductions sends a clear signal to regulatory agencies, funding sources, and the public of the State's commitment to pollution prevention and should promote innovative programs to stimulate such activities.

- Pollution prevention does not include traditional pollution control (e.g., VPDES permit program), waste treatment, or external recycling. In addition, pollution prevention does not include activities that merely shift the risks associated with the pollutant. Pollution prevention must consider the entire life cycle of the product and focus on actual source and use reduction.

- Pollution prevention does not include waste minimization. Waste minimization includes activities such as incineration which reduce the volume of waste after it is generated and which have their own associated risks.

- Virginia has a hierarchical approach in the Waste Minimization program which addresses methods to deal with waste after it has been used or generated. The definition of pollution prevention should focus on source reduction. Pollution prevention is not waste minimization under a different name.

2] Goals

The Commonwealth should establish a statewide, numerical target goal for the reduction of both the use and release of toxic substances. The Commonwealth should also establish a timeframe to accomplish that goal.

RATIONALE:

- It is important to include a use reduction goal as well as a release reduction goal in order to promote and encourage true source reduction as the primary focus of pollution prevention. Release reduction goals alone still put emphasis on control after the toxic substance is used or generated. This may encourage off-site recycling, or incorporating the toxic substance into the product or the workplace rather than true source reduction. Release reductions are only a part of genuine pollution prevention.

- Statewide goals provide targets for agencies and companies to strive toward. Such goals do not, however, penalize individual companies which fail to meet statewide targets.

- Goals will help state policy makers, facilities, and the public to understand the Commonwealth's level of commitment to toxic use reduction.

- Goals provide a yardstick by which both the public and decision makers can evaluate the success of the state's reduction program.

- This type of goal is not intended to be the goal for each facility or for any particular toxic substance.

- As a signatory to the 1987 Chesapeake Bay Agreement and the Chesapeake Bay Toxics Reduction Strategy, Virginia has already made a commitment to: "[t]he long term goal of ...a toxics free Bay by eliminating the discharge of toxic substances from all controllable sources. By the year 2000, the input of toxic substances from all controllable sources to the Chesapeake Bay will be reduced to levels that result in no toxic or bioaccumulative impacts on the living resources that inhabit the Bay or human health." (emphasis added)

- Eight states have adopted statewide pollution prevention goals. Examples of these goals include New York (50% by 1999), Mississippi (25% by 1996), Maine (10% by 1993, 20% by 1995, and 30% by 1997).

3] Facility Planning and Reporting

PROPOSAL:

All facilities covered by RCRA and reporting under SARA Title III shall do facility planning. When special circumstances warrant it, the Commonwealth may designate specific industries or facilities for inclusion in facility planning requirements. Criteria for the inclusion of additional facilities shall be adopted by the Department of Environmental Quality following the procedures under the Administrative Process Act. Facility plans shall be revised at least every 5 years.

Facility plans cover four general areas:

1) internal use and release reduction goals;
2) identification of pollution prevention options and financial and technical feasibility analysis;
3) criteria or rationale for choosing or discarding options; and
4) schedule for implementing chosen options.

Appropriate provisions for state and public review of the facility plan shall be developed to balance the public's need to

know with business' need to protect proprietary information.

Facilities shall submit annual reports to the Department of Environmental Quality which include the following components.

1) a summary of objectives in the facility plan, including implementation schedules;
2) a summary of progress made in the past year towards reaching the facility's pollution prevention objectives;
3) methods through which reductions were achieved;
4) reasons why objectives were not achieved;
5) certification of the facility management's commitment to the plan's objectives; and
6) an accounting of toxic substance use at the facility based on total amounts as well as a "per unit of production" basis.

RATIONALE:

- Facility planning is the heart of pollution prevention. This proposal only requires that facilities do the planning not that they have to implement any specific option, attain a certain amount of reduction, etc. Unless a plan is developed, however, pollution prevention opportunities are less likely to be identified and used.

- Facility planning is included in 19 states' pollution prevention legislation. In Minnesota's survey of facilities, 80% responded that it was worthwhile for every company to prepare plans and 88% thought it is likely that their facilities will achieve prevention objectives and implementation schedules.

- Examination and analysis of a facility's processes is necessary in order to identify pollution prevention opportunities. If planners look at each production process with the goal of using fewer chemicals, they more likely will develop process changes such as chemical substitutions or design modifications.

- The length and complexity of facility plans varies with the type and size of the facility involved. For a small company, a facility plan could be a shorter and simpler document.

- A plan can make pollution prevention self-sustaining: Implementation leads to measurable progress in pollution prevention, and that progress will lead to continuous reexamination.

- A facility plan provides a management tool for improving production efficiency, protecting worker and consumer

health, avoiding costs, increasing profitability, and improving community relations.

- Facility planning is an iterative process, not a one-shot action. The process needs to be reviewed periodically in order to update the plan and to utilize new technologies and experiences.

- Many companies already do facility planning and have an active pollution prevention program. Requiring planning can help the other companies recognize the pollution prevention opportunities available.

- The public, particularly the local community, is an important stakeholder in the facility planning process, as are employees. Making the public aware of a facility's efforts to reduce the use and release of toxic substances is particularly helpful to strengthening community relations. Very often the industry is doing more to reduce pollution than the public is aware. Additionally, the public occasionally worries about industry's activities that are, in fact, harmless.

- Annual reporting encourages companies to inventory chemical use/waste patterns. Reporting creates an accurate measure for the company, agencies and the public to monitor progress toward toxics reduction. Reporting allows the facility to amend or revise its facility plan as conditions change.

- 14 of 19 states requiring facility plans also require facilities to submit periodic reports on progress.

4] Measuring Progress

PROPOSAL:

The Department of Environmental Quality shall determine through administrative regulation the methods to be used to measure actual reductions in use and release of toxics taking into account both total and per unit reductions.

If the Commonwealth sets a statewide goal for reduction, progress toward that goal should be reported to the General Assembly on an annual basis.

RATIONALE:

- Any Virginia pollution prevention initiative should include methods to measure actual reductions in the use and release of toxic substances.

- What is important in measuring progress is actual reductions in use and release of toxic and other pollutants, not the number of facilities participating or the number of facility plans.

- Pollutant-based inventories, such as the Toxics Reduction Inventory, can be useful in measuring reductions. However, two issues must be addressed with any method used.

  First is making sure that the data being used reflects true reductions in use or release. In the Toxics Release Inventory, what can appear to be reductions often simply reflects a change in how releases are calculated and reported.

  Second, not only must total reductions be measured, but reductions of pollutants used per unit of production must be measured. This will show actual reductions made by pollution prevention efforts and will not be skewed due to reductions that occur because of a decline in production.

5] Technical Assistance

PROPOSAL:

Virginia shall establish an assistance unit within state government and/or at its universities to help small and medium sized businesses with pollution prevention strategies and facility planning.

RATIONALE:

- Limiting facility planning requirements to essentially those covered by RCRA and reporting under SARA Title III eliminates many small companies from these requirements. However, some small and medium sized businesses do fall under these federal programs and thus would have to do facility plans and they may not have the personnel available to conduct comprehensive facility planning.

- Assistance is most effective when fitted to the particular needs of the facility and is provided on-site.

- Virginia could utilize several existing and new programs to offer assistance at minimal additional cost.

  (1) Virginia's Interagency Multimedia Pollution Prevention Project has already begun to assist industries to reevaluate their processes to eliminate and/or reduce the volume and toxicity of emissions, discharges, and solid and hazardous waste. Such a program could be expanded.

(2) Creation of the new Department of Environmental Quality offers a unique opportunity to structure the organization to provide such expertise.

(3 Federal Clean Air Act Amendments of 1990 require each state to establish a Small Business Assistance Office to provide regulatory compliance information including pollution prevention assistance.

(4) EPA has established the "University-Based Assessments Programs". EPA has established three pilot programs at universities across the country to assist small and medium-size manufacturers who want to minimize the formation of hazardous waste but who lack the in-house expertise to do so. Virginia should seek EPA assistance in setting up a similar program at one or more Virginia engineering universities.

(5) The Commonwealth could establish undergraduate, graduate and continuing education curricula in toxics use reduction at state universities.

(6) The Commonwealth could establish cooperative use reduction research, development, and demonstration programs between universities and users.

(7) The Commonwealth could provide matching grants or revolving loans to help firms make necessary investments in toxics reduction projects.

(8) Assistance programs developed by the Commonwealth could use retired engineers and graduate students to provide technical assistance.

The following are some examples of the ways in which other states are providing technical assistance for pollution prevention.

1) Minnesota: expanded the Minnesota Technical Assistance Program to help companies identify and implement pollution prevention measures including process or product modification, inventory controls, feedstock substitutions, and improved machinery efficiency.

2) Massachusetts: established an Office of Toxics Use Reduction Assistance and Technology to provide technical assistance to industrial toxics users. It as created a Toxics Use Reduction Institute at the University of Lowell to develop training programs; engage in research, development, and demonstration of toxics use reduction methods; and conduct a study on the restriction of chemical use in the state.

3) New Jersey: earmarked a portion of its "Right to Know" fees for technical assistance program at the New Jersey Institute of Technology.

4) Connecticut: established the Business Assistance Program to provide technical assistance to business in pollution prevention techniques and methods. It also created a revolving loan fund and allows small and medium sized businesses to apply for loans and lines of credit to support their pollution prevention activities.

6] Sales Tax Incentives

PROPOSAL:

CBF supports changes in Virginia's sales tax structure so that pollution prevention measures receive at least equal favor to traditional pollution control-related purchases. Legislative changes should aim, at a minimum, to place industrial prevention initiatives on par with control purchases. If possible, a preference for prevention should be structured.

RATIONALE:

- Currently, Virginia's sales tax exemption law favors pollution control equipment over pollution prevention measures.
- A proposal should be fashioned to correct this inequity and provide an incentive to prevention. While the proposal should strive to be "revenue equal", Virginia must recognize the long-term advantages to the state and its environmental resources and economic base from a widespread prevention approach.
- If possible, tax changes should be tied to measurable reductions in the use and release of toxic pollutants. Perhaps a recapture provision could be drafted which would call for a review of the effectiveness of the prevention equipment or changes after a certain number of years (e.g., five or 10). If for some reason the review is found inadequate, the tax exemption would be repaid to the state.

7] Funding Virginia's Pollution Prevention Program

PROPOSAL:

CBF encourages the Commonwealth to establish the Virginia Pollution Prevention Fund with a stable funding source to support its initiative. The Fund should be earmarked for state assistance, primarily to small and medium sized businesses and local governments.

RATIONALE:

- At this point, CBF does not have a specific source of funding to recommend to the Joint Subcommittee.

- However, the experience of other states suggests that the type of funding source is particularly important because it determines if consistent long-term funding will be available. Dedicated funding (e.g., fees and taxes or portions of existing ones) are the most reliable source of funding over time. General appropriations and federal grants are less reliable because they are provided typically on an annual or bi-annual basis and because of the current economic climate.

- Virginia could find that long-term funding can be best secured through earmarking a portion of existing fees or taxes.

- If a new funding source is sought, one option that has been used elsewhere is a tax on the use of toxic chemicals. Such a tax is easy to verify, normally within a facility's purchasing records. This approach creates a funding base directly proportional to the amount of toxic substances used. It also serves as an economic incentive to companies to reduce their toxics usage.

  Minnesota bases its fees on amounts of toxics released. However, such a tax can encourage companies to favor waste management techniques such as off-site recycling rather than use reduction. This type of a tax could deter use reduction efforts since the law allows companies to continue preference of pollution control methods.

- Regardless of what funds are ultimately used, industry and other interests should be confident that the Fund will support appropriate uses. Such uses could include matching grants and revolving loans to companies for pollution prevention research and demonstration projects and for a technical assistance program to augment pollution prevention efforts. Again, the assistance program should be fashioned to ensure that small and medium sized businesses and local governments benefit the most.

VIRGINIA MANUFACTURERS ASSOCIATION
P.O. Box 412, Richmond, Virginia 23203, 804-643-7489, FAX 804-780-3853

TO: The Honorable R. Edward Houck

FROM: Carol C. Raper

Re: VMA's Recommendations Concerning Pollution Prevention Proposals with Common Support

DATE: December 31, 1992

I. INTRODUCTION AND OVERVIEW

Thank you for the opportunity to review the pollution prevention proposals submitted to the SJR 103 Legislative Subcommittee. Since the last meeting of the Subcommittee on December 18th, we have circulated the proposals from the Chesapeake Bay Foundation ("CBF") and the bills drafted by Legislative Services at your request (the "staff report"). As you requested, we studied each proposal for areas of common support which could be put forward to the 1993 legislative session as proposed bills.

Over the last two weeks, I have had numerous, lengthy and detailed discussions with our members concerning these proposals. I could devote twenty or thirty pages to analyses and bases for disagreement with a number of the CBF and staff report recommendations; however, I believe it will be more productive for me to confine most of my response to the areas where we do agree with CBF and the staff report. Where we appear to agree in principle but not in the particularities of how to implement the principle, I have attempted to offer reasons for our preferring one approach over another.

I have only addressed one major proposal with which we disagree, and that is the "partners" resolution. I singled this resolution out because it was discussed at some length by the SJR 103 Subcommittee at its last meeting. I would like to clarify, however, that our members have significant disagreement with any of the proposals not specified within these comments as being proposals with which we agree (at least in principle). Although we would oppose these proposals for a variety of reasons at the present time, I believe there is a basis for discussion and compromise on a number of them if we continue to work on the SJR 103 resolution for another year.

Briefly stated, the concepts on which we agree with at least one other party include a tax exemption, tax credit, use of environmental penalties to fund pollution prevention activities, Governor's award, and continuing the current parameters of the SJR 103 study for another year. The comments which follow define the exact parameters of our agreement with these concepts. In addition, we continue to support the proposals we put forward on bonds and regulatory alternatives. If others find these two proposals agreeable, we hope they will go forward to the legislature.

Although we cannot support a large legislative package at this time, we strongly believe that the "Pollution Prevention Act of 1993" should move forward with the limited proposals for which there is common support.

We at VMA originally took a conservative view toward proposing tax incentives and the like during hard economic times, but we are told that other legislative commissions are considering a more proactive approach. If the SJR 103 Subcommittee does not propose incentives for pollution prevention, but other environmental incentives (e.g., for recycling) are continued and increased by the legislature, then there could be an even greater disincentive for companies to employ pollution prevention than currently exists. Against this backdrop, we urge the SJR 103 Subcommittee to consider seriously the tax exemption and credit outlined herein so that Virginia law will provide the "level playing field" of incentives which we all seek.

Thank you for the opportunity to comment on these proposals. If you or other members of the Subcommittee have questions, please let me know.

II. SPECIFIC AREAS OF AGREEMENT

A. Tax Exemption

All three groups -- CBF, staff, and VMA -- appear to agree in principle that a tax exemption would be appropriate to place pollution prevention facilities and equipment on a par with other pollution control-related measures. Both the CBF proposal and staff report, however, propose tax exemptions which include requirements and definitions to which our members take exception (e.g., the term "use" which suggests toxics use reduction, reference to out-of-production recycling, definition of "hazardous substance," an apparent exclusion of equipment in new manufacturing facilities or plants, etc.). Accordingly, we continue to favor the approach described in Appendix B-1 of VMA's December 16th letter, which expands the definition of "certified pollution control equipment and facilities" in Va.

Code Ann. § 58.1-3660.B along functional rather than definitional lines. If equipment or facilities reduce pollutants entering waste streams, we believe that the law should provide an incentive for companies to utilize these measures without quibbling over terms and definitions. We believe that a definition of "pollution prevention equipment and facilities" in the tax exemption statute would merely encourage companies to continue utilizing traditional pollution control measures rather than "fighting any battles" in order to come under the exemption for pollution prevention.

Further, by utilizing a functional approach within § 58.1-3660 (which actually applies to local-option exemptions from local taxation), the exemption would automatically apply to the state sales and use tax exemption as set forth in § 58.1-608, because that section includes "certified pollution control equipment and facilities as defined in § 58.1-3660." Va. Code Ann. § 58.1-608.A.3.i. No amendment to § 58.1-608 would be needed.

For the exemption to be meaningful, it is very important that it apply to the state sales and use tax. (To the best of our knowledge, only one locality has opted to adopt a partial exemption from machinery and tools tax for pollution control equipment pursuant to § 58.1-3660.) We believe it is equally important for this sales tax exemption to be applied straightforwardly without controversial definitional "baggage." It will be some time in the future before all groups agree on a definition of "pollution prevention," but our current lack of consensus on a definition should not impede moving forward with a needed incentive for pollution prevention activities, or for that matter, for a variety of measures which reduce pollution.

B. Tax Credit

The staff report contains a recommendation for an individual and corporate income tax credit comparable to the one currently available under the Virginia Code for recycling equipment and facilities. We understand that other commissions and legislators plan to ask the 1993 legislature to extend and/or increase the recycling tax credit, and we applaud that effort. Given this situation, however, it is particularly important to propose a tax credit for pollution prevention so that a company's incentive to pursue pollution prevention measures does not fall even further behind the current incentive to pursue recycling.

Again, however, our members have serious concerns about the terms and definitions used within the staff report's tax-credit proposal. To avoid these problems, we suggest that the proposed tax credit be either (1) included in § 58.1-338 (the current

individual recycling tax credit) as a tax credit for "pollution prevention, reduction, and recycling" or (2) delineated in § 58.1-338.1 as a tax credit for "pollution prevention or reduction" with the text of the provision taking a functional approach similar to our proposal regarding § 58.1-3660. (Note: There appears to be a typographical error regarding the relevant statutory section on page 1, TAXCREDIT2, of the staff report.) The same principles would apply to § 58.1-445.1 vs. § 58.1-445.2, applicable to corporate tax credits.

Including all types of pollution reduction on an equal footing within the current § 58.1-338 and § 58.1-446.1 might be a valid approach for creating the "level playing field" we all seek, plus it could reduce the controversy which we understand sometimes occurs under current law when companies try to prove that their equipment meets the definition of "recycling." Putting the pollution prevention tax credit in a separate statutory section would also be valid, provided the section is titled and delineated in a way which grants the credit to measures which reduce pollution without being mired down by the "pollution prevention" definitional questions which are so troubling to our members. Under either approach, we believe the goal should be to provide an incentive to help the environment, and not waste time and money in arguing about definitional requirements and artificially controlling process decisions which manufacturers must make in responsibly planning and operating their businesses.

C. Fund to Assist Pollution Prevention Activities

All parties seem to agree that funding for pollution prevention is needed, but we differ as to if and how a specific fund should be established, what the sources of funding should be, and how funds should be disbursed. If the staff report could be redrafted so that the current definitions are deleted and language is substituted which does not raise the concerns previously stated, then our members could probably agree to a form of Pollution Prevention Revolving Fund. The legislation also, however, would have to state clear criteria for granting loans from the Fund. Without these criteria, the agency would de facto have the power to formulate a "program" for pollution prevention prior to the SJR 103 Subcommittee's reaching agreement on what the program should be. We would therefore prefer a delay in implementing this Fund, especially since it may be very difficult to convince the 1993 General Assembly to appropriate general funds to the Fund. At the current time, we would object to appropriation of permit fees or any other monies we can envision to such a Fund. As we have previously stated, the question of funding for pollution prevention is an extremely difficult one, and one which all parties will want to continue to study in a very serious manner over time.

Our strong preference regarding funding would therefore be to move forward with the civil penalties proposal found in Appendix A of VMA's December 16th letter. This a very modest proposal which could, without requiring any appropriations, assist either individual companies who are subject to a civil penalty or the Department of Waste Management's current pollution prevention program. Although some have questioned whether such a plan would divert needed funds from emergency cleanups, we would remind the Subcommittee that our proposal involves monies emanating from consent orders agreed upon by the permittee and the environmental agency. This pool of money would not exist at all but for the agreement in the consent order. Using part of a civil penalty for pollution prevention would not mean that money would be lost for emergency response. We favor this small step as a useful beginning, while we all continue to study the broader issues of pollution prevention and how pollution prevention activities should be funded.

D. Governor's Award

Both the staff report and VMA's recommendations mentioned the Governor's Award for Environmental Excellence. This award has been granted to CBF and three members of VMA's Pollution Prevention Subcommittee in its two years of existence. I believe we all support and appreciate the goals of this award and hope to see it expanded and elevated in the public eye. This can be accomplished, however, without legislation, as VMA recommended on December 16th. As all of our thoughts and plans continue to develop, we may want to propose a different award or a different function for the award by 1994. Therefore, we do not believe that legislation is needed or advisable at this time concerning an environmental award.

E. Continuation of the SJR 103 Study

CBF and the staff report favor continuation of the SJR 103 study for an additional year. We would not be opposed to a continuation, provided that the scope and subjects to be studied remain the same as in the current resolution. An additional year should enable all parties to explore and reach additional areas of agreement.

Especially if SJR 103 is to continue, however, the "partners" resolution should not be adopted. For meaningful progress to be made on pollution prevention, we believe there needs to be one forum where all parties come together and try to reach agreement. Forming another group to pursue the same goals simultaneously can easily produce confusion, conflicts, and an inability of either group to act with complete effectiveness. At the very least, there would be needless duplication and redundancy.

We are trying to honor your request to work with you and the SJR 103 Subcommittee as fully as possible in pursuing our pollution prevention goals rather than seeking or accepting other forums. Even in accepting Dick Cook's invitation to meet with him about informational sources and pollution prevention programs in other states, we were very cautious that all parties were represented and that any future meetings or activities include the SJR 103 Subcommittee, either formally or informally. We believe that focusing as fully as possible on the SJR 103 group will be more productive than creating and supporting competing efforts -- whether those efforts be the "partners" group, the proposed DEQ, or new programs within the existing environmental agencies. We believe that it is more prudent for all of us to "march to the same drummer," and that "drummer," so to speak, should be the SJR 103 vehicle which was created by the General Assembly. Accordingly, consideration of the "partners" resolution should be delayed until the work of the SJR 103 Subcommittee is complete.

Thank you for considering these comments. I look forward to seeing you at the SJR 103 meeting on January 7.

Appendix M

Chesapeake Bay Foundation

25th Anniversary

Environmental Defense - Environmental Education - Land Management

Suite 815, Heritage Building • 1001 E. Main Street • Richmond, Virginia 23219
(804) 780-1392 Fax (804) 648-4011

MEMORANDUM

To: Senator Houck, Frank Munyan

From: Joe Maroon, CBF Virginia Executive Director

Date: December 31, 1992

Re: Comments on Proposed Pollution Prevention Legislation

As requested, enclosed are CBF's initial comments on proposed pollution prevention legislation. I trust these comments will be helpful to you and the SJR 103 Sub-committee as you consider whether or not to proceed with introducing legislation in 1993.

CBF remains willing to work with you on subsequent drafts to see that a sound and appropriate pollution prevention program is fashioned and passed by the Commonwealth.

Headquarters: 162 Prince George Street • Annapolis, Maryland 21401 • (410) 268-8816
Maryland Office: 14 Market Space • Annapolis, Maryland 21401 • (410) 268-8833
Pennsylvania Office: 214 State Street • Harrisburg, Pennsylvania 17101 • (717) 234-5550

Chesapeake Bay Foundation

25th Anniversary

Environmental Defense - Environmental Education - Land Management

Suite 815, Heritage Building • 1001 E. Main Street • Richmond, Virginia 23219
(804) 780-1392 Fax (804) 648-4011

CHESAPEAKE BAY FOUNDATION
COMMENTS ON PROPOSALS FOR POLLUTION PREVENTION LEGISLATION

GENERAL COMMENTS:

1) Throughout the various components of this proposal, pollution prevention is referred to in terms of the reduction of the "generation" or "release" of environmental pollution. The necessary term that is omitted is "use". Avoiding or eliminating the use of toxic substances is fundamental to any pollution prevention effort. Referring only to generation and release maintains the traditional approach of dealing with toxic wastes after they are generated rather than preventing their production in the first place. CBF strongly recommends the term "use" be included as indicated in the following comments.

2) Throughout these legislative proposals the terms environmental waste, hazardous substance, and toxic material are used interchangeably. This is quite confusing and sends a mixed message as to the purpose and major focus of a pollution prevention program. Although the prevention approach can and should be applied to all types of pollution, these current proposals are aimed at and written specifically for toxic chemicals. Therefore we recommend that the proposals use the term "toxic substances" consistently throughout the proposals. "Hazardous waste" has its own narrow definition in other statutes and, along with the term "environmental waste" still connotes after-the-fact activities rather than prevention.

3) We also urge the Committee to include statewide use and release target goals in the legislative package. Goals provide a target for agencies and companies to strive toward but do not penalize individual companies which do not meet the statewide target. Additionally, goals will help state policy makers, facilities, and the public to understand the Commonwealth's level of commitment to pollution prevention. We suggest that the goals be included in the P2 Program legislation.

1) PARTNERS

CBF supports this Resolution. We agree that this kind of committee would be a great benefit to the advancement of pollution prevention in the Commonwealth. We believe, however, that having the Department of Waste Management convene this

committee puts the focus on waste management rather than use and source reduction of all toxic substances. It should be made clear that the committee should be convened by the DEQ.

page 1, lines 6 & 7: Delete "entering the waste stream or the environment" and insert "the use or generation of" at the beginning of line 6 before "pollutants."

page 1, line 8: Insert "users and" before "generators."

page 1, line 16: Insert "elimination or" before "reduction."

page 2, line 9: Delete "toxicity and volume" and insert "use and generation".

page 2, line 9: Delete "chemical inputs" and insert "toxic substances".
The goal of pollution prevention is to reduce or eliminate the use and generation of pollutants.

2) STUDY

CBF supports this resolution. We too believe that an additional year would be needed to explore the full range of activities that could benefit from pollution prevention.

page 1, line 27: Delete "and other" and insert "as well as." Pollution prevention is not part of a traditional waste reduction program.

page 2, line 24: insert the words "state and" after "in" and before "local government".

3) P2 PROGRAM

§ 10.1-1425.10. Definitions

page 1, line 5: Replace the term "Environmental waste" with "Toxic Substances".
The substances that are covered by this term include both inputs and outputs, therefore waste is a misleading term. CBF suggests that the term "toxic substances" be used instead. This more clearly would convey what is intended by this legislation. Wherever the term "environmental waste" is used in the proposed documents, we suggest that the term "toxic substances" be inserted.

page 1, line 7: insert the word "used" after "is" and before "generated".

page 1, lines 12 and 13: The phrase "at the source" should be deleted from line 13 and inserted in line 12 following the word "reducing."

page 1, lines 21 - 24: It is unclear as to the intent of the provision. This should be rewritten to clarify the meaning. If the intent is to address transfers among media, language similar to that on page 2, lines 19 and 19 should be used.

page 1, line 27: Any pollution prevention program should have a broad definition of the term "toxic material". CBF recommends the following definition:

"Toxic substance means a substance which can cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological or reproductive malfunctions or physical deformities in any organism or its offspring, or which can become poisonous after concentration in the food chain or in combination with other substances."
At a minimum, this should include all chemicals required to be reported under Section 313 of SARA Title III Community Right-to-Know Act.

This definition of toxic substance is identical to that of the Chesapeake Bay Toxics Reduction Strategy that Virginia signed on to in 1988. Consequently, adopting this definition would be consistent with current programs in Virginia to reduce toxic substances.

§ 10.1-1425.11. Pollution Prevention Policy: CBF strongly supports the inclusion of a pollution prevention policy. The policy proposed, however, covers much more than pollution prevention. We suggest that the policy address only pollution prevention by having lines 11 through 19 deleted and replaced with following:

"It shall be the policy of the Commonwealth that the preferred approach to dealing with environmental pollution shall be to avoid, reduce, or eliminate the use and release of toxic substances at the source."

§ 10.1-1425-.12. Pollution Prevention Office

page 2, lines 24 & 25: Delete the phrase "enforce all federal and state laws and regulations pertaining to toxic material and environmental waste disposal and release..."
Waste disposal is not pollution prevention and should not be undertaken by the Pollution Prevention Office.

page 3, lines 3 & 4: Delete the phrase "involve pollution prevention" and insert the phrase "have been identified in an approved facility plan."
Requiring that these process or equipment modifications be part of an approved facility plan will prevent disputes between the Office and the applicant as to whether the

actions proposed are legitimate pollution prevention activities.

§ 10.1-1425.13. Pollution Prevention Assistance Program

page 3, line 14 and 15: The language here still focuses on end-of-pipe activities. Delete lines 14 and 15 and insert: "designed to assist all persons in reducing the use and generation of toxic substances in the Commonwealth. The program shall ..."

page 3, line 17: Change the first "and" to "or". Assistance should be given to those entities that have inadequate technical OR financial resources.

page 3, lines 20 - 23: Here again, pollution prevention is getting confused with other activities. Information about "waste reduction, waste minimization..." is not pertinent to pollution prevention. CBF is supportive of the idea of a clearinghouse but, as proposed, it further confuses the issues of pollution prevention and waste management. We suggest this section be deleted from this piece of legislation but that Dept. of Waste Management run a clearinghouse for information concerning waste management and pollution prevention. In addition, we believe the Department can do such without a statutory mandate.

page 3, line 28: Delete "providing" and "to environmental waste generators"

page 4, line 5: Delete "environmental" and "insert toxic substance".

page 4, line 6: Insert "user or" before the word "generator".

page 4, line 8: Insert "user or" before "generator."

§ 10.1-1425.15. Pilot Projects

CBF supports this idea. We believe that it would be more beneficial to narrow this section to include only those projects that would potentially be useful to at least several Virginia companies and/or relevant to activities done by small or medium sized businesses.

10.1-1425.16 Waste Exchange

CBF recommends deletion of this section. This is a good idea but it is not pollution prevention and should not be a part of a pollution prevention program. CBF would certainly support this kind of activity in a more appropriate piece of legislation.

10.1.1425.17. Governor's Award

CBF supports this proposal.

10.1.1425.18. Trade Secret Protection

CBF supports this proposal, and recommends that "trade secret" be defined in the legislation as " any confidential formula, pattern, process, device, information, or compilation of information that is used in an owners business, and that gives said owner an opportunity to obtain an advantage over competitors who do not know or use it."

10.1-1425.19. Evaluation Report

page 5, line 24: Delete "and" and add a ",".
page 5, line 25: After "program" insert "and calculations concerning the reductions in the amount of toxic substances used and released."
Evaluations of the pollution prevention program should include measurements concerning the actual reductions in the use or release of environmental pollutants.

10.1-1425.20. Pollution Prevention Grants

CBF supports this proposal.

4) FUNDING

§ 10.1-2500. Virginia Environmental Response Fund

CBF questions the use of penalties to support the Commonwealth's pollution prevention activities. This is not an entirely reliable source of funds in that the amount will vary from year to year. In addition, since penalties are supposed to be a deterrent to future violation, one would hope that penalties assessed would decrease over time. Since pollution prevention activities and requests for assistance are likely to increase as the program matures, a potentially shrinking source of funding does not seem appropriate. Perhaps most importantly, the use of penalties rather than a fee on use and/or release of toxic substances provides no direct incentive for reducing use and/or release. CBF recommends that the study committee take additional time to explore other funding mechanisms.

5) INCENTIVE

page 1, Section 1. Pollution Prevention Plans

page 1, line 5: Delete "may" and insert "shall".

Facility planning is fundamental to any successful pollution prevention initiative. Planning provides the mechanism to examine facility processes in order to identify and implement pollution prevention opportunities. In Virginia, however, only 14% of the eligible companies chose to participate in EPA's voluntary 33/50 Program. These companies release less than 15% of the pollutants reported for the Toxics Release Inventory.

page 1, line 21: Insert "use," after "the".
page 1, line 25: Insert "used," after "being."
page 1, line 28: Insert "use," after "the."
page 2, line 4: Insert "use," after "the."
page 2, line 7: Insert "use," at the beginning of the line.

page 2, insert after line 12
"(viii) Certification by responsible corporate officers or facility managers;
(ix) Numeric descriptions of amounts of environmental pollutants flowing in and out of each process; and
(x) Description of opportunities for employee involvement and training."
CBF strongly suggests that the above components also be required as part of pollution prevention plans.

Section 2 Approval of Plans
page 2, line 15: Insert the following sentence after "approval": "The Department shall have the authority to approve or disapprove a plan and shall do so within 90 days of receipt of a complete plan."

Section 3. Technical Assistance

This section would be more appropriately named "Regulatory Assistance". There is nothing related to technical asssistance in this section.
CBF objects to all the provisions of this section <u>except</u> (iv). Subsections (i), (ii), and (iii) all provide regulatory relief with no direct connection to a specific pollution prevention activity. Pollution prevention is not an excuse for regulatory relief. It is not a substitute for meeting the requirements of existing environmental laws. There is no net benefit to the environment if, for example, a discharger reduces the amount of copper, but obtains a variance from meeting the lead standard. The point of source reduction is to eliminate or reduce the substance so that variances and permit limits are not necessary. This results in savings for the industry from an economic, regulatory and compliance perspective. Since the definition of pollution prevention under 10.1-1425.10 explicitly excludes activities such as treatment, incineration, increased

pollution control activities, or out-of-process recycling, it is unclear what governmental permits or approvals would be necessary for in-process changes or modification, reformulation of products, improved housekeeping, etc.

page 3, line 5: Insert "or change" at the end of the line.

CBF believes that sales tax benefits, tax credits, and loans should be directly tied to an approved pollution prevention facility plan. This would not only reward companies for developing a plan but it would also provide assurance for the various state agencies and departments as to the validity of the facilities' claims.

6) SALESTAX

Throughout this proposal the term "hazardous substances" should be deleted and the term "toxic substances" should be inserted.

page 29, line 10: Insert "implementing a" after "or". Machinery, equipment, etc. cannot be used in a plan.

page 29, line 14: Insert "use" at the beginning of the line.

page 30, part D beginning on line 15: This section is unclear as to which approach (control or prevention) acts as the cap for the exemption. This section should be re-drafted.

7) TAXCREDIT2

Throughout this proposal, the term "hazardous substances" should be deleted and the term "toxic substances" should be inserted.

page 1, line 9: Insert "use or" before "generation."

page 1: Delete lines 22 & 23.

page 2, line 23: Insert "use or" at the end of the line.

page 3: Delete lines 9 & 10.

8) LOANFUND

Throughout this document the term "hazardous substance" should be deleted and the term "toxic substances" be inserted.

page 1: Delete lines 9 -11.

page 1, line 14: Insert "use or" before "generation."

1993 SESSION

LD6601685

SENATE BILL NO. 650

Offered January 19, 1993

A BILL to amend the Code of Virginia by adding in Chapter 14 of Title 10.1 an article numbered 3.3, consisting of sections numbered 10.1-1425.10 through 10.1-1425.18, relating to pollution prevention program.

Patrons—Houck, Howell and Quayle; Delegates: Clement, Hamilton, Keating and Plum

Referred to the Committee on Agriculture, Conservation and Natural Resources

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Chapter 14 of Title 10.1 an article numbered 3.3, consisting of sections numbered 10.1-1425.10 through 10.1-1425.18, as follows:

Article 3.3.

Pollution Prevention Program.

§ 10.1-1425.10. Definitions.—As used in this article, unless the context requires a different meaning:

"Environmental waste" means any contaminants, pollutant, waste, discharge, or emission, regardless of whether or how it is regulated, which is generated or released into any waste stream or the environment.

"Pollution prevention" means eliminating or reducing the use, generation or release at the source of environmental waste. Methods of pollution prevention include, but are not limited to, equipment or technology modifications; process or procedure modifications; reformulation or redesign of products; substitution of raw materials; improvements in housekeeping, maintenance, training, or inventory control; and closed-loop recycling, reuse or extended use of any material utilizing equipment or methods which are an integral part of a production process. The term shall not include any practice which alters the physical, chemical, or biological characteristics or the volume of an environmental waste through a process or activity which itself is not integral to and necessary for the production of a product or the providing of a service, and shall not include treatment, increased pollution control, out-of-process recycling, or incineration.

§ 10.1-1425.11. Establishment of pollution prevention policy.—It shall be the policy of the Commonwealth to promote pollution prevention and that the generation of environmental waste should be reduced or eliminated at the source, whenever feasible; environmental waste that is generated should be reused whenever feasible; environmental waste that cannot be reduced or reused should be recycled whenever feasible; environmental waste that cannot be reduced, reused, or recycled should be treated in an environmentally safe manner; and disposal should be employed only as a last resort and should be conducted in an environmentally safe manner. It shall also be the policy of the Commonwealth to minimize the transfer of environmental wastes from one environmental medium to another.

§ 10.1-1425.12. Pollution prevention assistance program.—The Department shall establish a pollution prevention assistance program designed to assist all persons in reducing the amount and toxicity of environmental waste generated in the Commonwealth. The program shall emphasize assistance to local governments and businesses that have inadequate technical and financial resources to obtain information and to assess and implement pollution prevention measures.

§ 10.1-1425.13. Pollution prevention advisory panels.—The Director is authorized to name qualified persons to pollution prevention advisory panels to assist the Department in administering the pollution prevention assistance program. Panels shall include members representing different areas of interest in and potential support for pollution prevention, including industry, education, environmental and public interest groups, state government and local government.

§ 10.1-1425.14. Pilot projects.—The Department may sponsor pilot projects to develop

and demonstrate innovative technologies and methods for pollution prevention. The results of all such projects shall be available for use by the public, but trade secret information shall remain protected.

§ 10.1-1425.15. Waste exchange.—The Department may establish an industrial environmental waste material exchange that provides for the exchange, between interested persons, of information concerning (i) particular quantities of industrial environmental waste available for recovery, (ii) persons interested in acquiring certain types of industrial environmental waste for purposes of recovery; and (iii) methods for the treatment and recovery of industrial environmental waste. The industrial environmental waste materials exchange may be operated under one or more reciprocity agreements providing for the exchange of the information for similar information from a program operated in another state. The Department may contract for a private person or public entity to establish or operate the industrial environmental waste materials exchange. The Department may prescribe rules concerning the establishment and operation of the industrial environmental waste materials exchange, including the setting of subscription fees to offset the cost of participating in the exchange.

§ 10.1-1425.16. Trade secret protection.—All trade secrets obtained pursuant to this article by the Department shall be held as confidential unless such information is already a matter of public record or disclosure is required by law.

§ 10.1-1425.17. Evaluation report.—The Department shall submit an annual report to the Governor and the General Assembly. The report shall include an evaluation of its pollution prevention activities. The report shall be submitted by December 1 of each year, beginning in 1994.

§ 10.1-1425.18. Pollution prevention grants.—A. The Department may make grants to identify pollution prevention opportunities and to study or determine the feasibility of applying specific technologies and methods to prevent pollution. Persons who use, generate or release environmental waste may receive grants under this section.

Official Use By Clerks	
Passed By The Senate	**Passed By The House of Delegates**
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
Clerk of the Senate	N-2 of the House of Delegates

1993 SESSION

LD6602685

SENATE BILL NO. 570

Offered January 13, 1993

A BILL to amend and reenact §§ 10.1-1307, 10.1-1402, 58.1-3660, and 62.1-44.15 of the Code of Virginia, relating to certified pollution control equipment and facilities; certifications by environmental boards.

Patrons—Houck, Gartlan, Howell and Quayle; Delegates: Clement, Hamilton, Keating and Plum

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Referred to the Committee on Agriculture, Conservation and Natural Resources

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Be it enacted by the General Assembly of Virginia:

1. That §§ 10.1-1307, 10.1-1402, 58.1-3660, and 62.1-44.15 of the Code of Virginia are amended and reenacted as follows:

§ 10.1-1307. Further powers and duties of Board.—A. The Board shall have the power to control and regulate its internal affairs; initiate and supervise research programs to determine the causes, effects, and hazards of air pollution; initiate and supervise statewide programs of air pollution control education; cooperate with and receive money from the federal government or any county or municipal government, and receive money from any other source, whether public or private; develop a comprehensive program for the study, abatement, and control of all sources of air pollution in the Commonwealth; and advise, consult, and cooperate with agencies of the United States and all agencies of the Commonwealth, political subdivisions, private industries, and any other affected groups in furtherance of the purposes of this chapter.

B. The Board may adopt by regulation emissions standards controlling the release into the atmosphere of air pollutants from motor vehicles, only as provided in Article 22 (§ 46.2-1176 et seq.) of Chapter 10 of Title 46.2.

C. After any regulation has been adopted by the Board pursuant to § 10.1-1308, it may in its discretion grant local variances therefrom, if it finds after an investigation and hearing that local conditions warrant. If local variances are permitted, the Board shall issue an order to this effect. Such order shall be subject to revocation or amendment at any time if the Board after a hearing determines that the amendment or revocation is warranted. Variances and amendments to variances shall be adopted only after a public hearing has been conducted pursuant to the public advertisement of the subject, date, time, and place of the hearing at least thirty days prior to the scheduled hearing. The hearing shall be conducted to give the public an opportunity to comment on the variance.

D. After the Board has adopted the regulations provided for in § 10.1-1308, it shall have the power to: (i) initiate and receive complaints as to air pollution; (ii) hold or cause to be held hearings and enter orders diminishing or abating the causes of air pollution and orders to enforce its regulations pursuant to § 10.1-1309; and (iii) institute legal proceedings, including suits for injunctions for the enforcement of its orders, regulations, and the abatement and control of air pollution and for the enforcement of penalties.

E. The Board in making regulations and in approving variances, control programs, or permits, and the courts in granting injunctive relief under the provisions of this chapter, shall consider facts and circumstances relevant to the reasonableness of the activity involved and the regulations proposed to control it, including:

1. The character and degree of injury to, or interference with, safety, health, or the reasonable use of property which is caused or threatened to be caused;

2. The social and economic value of the activity involved;

3. The suitability of the activity to the area in which it is located; and

4. The scientific and economic practicality of reducing or eliminating the discharge resulting from such activity.

F. The Board may designate one of its members, the Director, or a staff assistant to conduct the hearings provided for in this chapter. A record of the hearing shall be made

and furnished to the Board for its use in arriving at its decision.

G. The Board shall submit an annual report to the Governor and General Assembly on or before October 1 of each year on matters relating to the Commonwealth's air pollution control policies and on the status of the Commonwealth's air quality. The annual report shall be distributed in accordance with the provisions of § 2.1-467.

H. The Board shall promulgate regulations establishing criteria and procedures for making certifications pursuant to § 58.1-3660 that equipment or facilities materially reduce the amount of any pollutants or contaminants entering any waste stream or the environment, and materially reduce the hazards to public health or the environment associated with the release of such pollutants or contaminants.

§ 10.1-1402. Powers and duties of the Board.—The Board shall carry out the purposes and provisions of this chapter and compatible provisions of federal acts and is authorized to:

1. Supervise and control waste management activities in the Commonwealth.

2. Consult, advise and coordinate with the Governor, the Secretary, the General Assembly, and other state and federal agencies for the purpose of implementing this chapter and the federal acts.

3. Provide technical assistance and advice concerning all aspects of waste management.

4. Develop and keep current state waste management plans and provide technical assistance, advice and other aid for the development and implementation of local and regional waste management plans.

5. Promote the development of resource conservation and resource recovery systems and provide technical assistance and advice on resource conservation, resource recovery and resource recovery systems.

6. Collect data necessary to conduct the state waste programs, including data on the identification of and amounts of waste generated, transported, stored, treated or disposed, and resource recovery.

7. Require any person who generates, collects, transports, stores or provides treatment or disposal of a hazardous waste to maintain records, manifests and reporting systems required pursuant to federal statute or regulation.

8. Designate, in accordance with criteria and listings identified under federal statute or regulation, classes, types or lists of waste which it deems to be hazardous.

9. Consult and coordinate with the heads of appropriate state and federal agencies, independent regulatory agencies and other governmental instrumentalities for the purpose of achieving maximum effectiveness and enforcement of this chapter while imposing the least burden of duplicative requirements on those persons subject to the provisions of this chapter.

10. Apply for federal funds and transmit such funds to appropriate persons.

11. Promulgate and enforce regulations, and provide for reasonable variances and exemptions necessary to carry out its powers and duties and the intent of this chapter and the federal acts.

12. Subject to the approval of the Governor, acquire by purchase, exercise of the right of eminent domain as provided in Chapter 1.1 (§ 25-46.1 et seq.) of Title 25, grant, gift, devise or otherwise, the fee simple title to any lands, selected in the discretion of the Board as constituting necessary and appropriate sites to be used for the management of hazardous waste as defined in this chapter, including lands adjacent to the site as the Board may deem necessary or suitable for restricted areas. In all instances the Board shall dedicate lands so acquired in perpetuity to such purposes. In its selection of a site pursuant to this subdivision, the Board shall consider the appropriateness of any state-owned property for a disposal site in accordance with the criteria for selection of a hazardous waste management site.

13. Assume responsibility for the perpetual custody and maintenance of any hazardous waste management facilities.

14. Collect from any person operating or using a hazardous waste management facility,

fees sufficient to finance such perpetual custody and maintenance due to that facility as may be necessary. All fees received by the Board pursuant to this subdivision shall be used exclusively to satisfy the responsibilities assumed by the Board for the perpetual custody and maintenance of hazardous waste management facilities.

15. Collect, from any person operating or proposing to operate a hazardous waste treatment, storage or disposal facility or any person transporting hazardous waste, permit application fees sufficient to defray only costs related to the issuance of permits as required in this chapter in accordance with Board regulations, but such fees shall not exceed costs necessary to implement this subdivision. All fees received by the Board pursuant to this subdivision shall be used exclusively for the hazardous waste management program set forth herein.

16. Collect, from any person operating or proposing to operate a sanitary landfill or other facility for the disposal, treatment or storage of nonhazardous solid waste, permit application fees sufficient to defray only costs related to the issuance of permits as required in this chapter in accordance with Board regulations, but such fees shall not exceed costs necessary to issue such permits. All such fees received by the Board shall be used exclusively for the solid waste management program set forth herein. The Board shall establish a schedule of fees by regulation as provided in §§ 10.1-1402.1, 10.1-1402.2 and 10.1-1402.3.

17. Issue, deny, amend and revoke certification of site suitability for hazardous waste facilities in accordance with this chapter.

18. Make separate orders and regulations it deems necessary to meet any emergency to protect public health, natural resources and the environment from the release or imminent threat of release of waste.

19. Take actions to contain or clean up sites or to issue orders to require cleanup of sites where solid or hazardous waste, or other substances within the jurisdiction of the Board, have been improperly managed and to institute legal proceedings to recover the costs of the containment or clean-up activities from the responsible parties.

20. Collect, hold, manage and disburse funds received for violations of solid and hazardous waste laws and regulations or court orders pertaining thereto pursuant to subdivision 19 of this section for the purpose of responding to solid or hazardous waste incidents and clean-up of sites which have been improperly managed, including sites eligible for a joint federal and state remedial project under the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Public Law 96-510, as amended by the Superfund Amendments and Reauthorization Act of 1986, Public Law 99-499, and for investigations to identify parties responsible for such mismanagement.

21. Abate hazards and nuisances dangerous to public health, safety or the environment, both emergency and otherwise, created by the improper disposal, treatment, storage, transportation or management of substances within the jurisdiction of the Board.

22. Notwithstanding any other provision of law to the contrary, regulate the management of mixed radioactive waste.

23. Promulgate regulations establishing criteria and procedures for making certifications pursuant to § 58.1-3660 that equipment or facilities materially reduce the amount of any pollutants or contaminants entering any waste stream or the environment, and materially reduce the hazards to public health or the environment associated with the release of such pollutants or contaminants.

§ 58.1-3660. Certified pollution control equipment and facilities.—A. Certified pollution control equipment and facilities, as defined herein, are hereby declared to be a separate class of property and shall constitute a classification for local taxation separate from other such classification of real or personal property and such property. The governing body of any county, city or town may, by ordinance, exempt or partially exempt such property from local taxation.

B. As used in this section:

"Certified pollution control equipment and facilities" ~~shall mean~~ *means* any property,

including real or personal property, equipment, facilities, or devices, used primarily for the purpose of abating ~~or~~ , preventing , *or controlling* pollution of the atmosphere or waters of the Commonwealth and which the state certifying authority having jurisdiction with respect to such property has certified to the Department of Taxation as having been constructed, reconstructed, erected, or acquired in conformity with the state program or requirements for abatement , *prevention,* or control of water or atmospheric pollution or contamination. *"Certified pollution control equipment and facilities" also includes any equipment or facilities, whether voluntarily acquired or acquired in conformity with state programs or requirements for the abatement, prevention or control of pollution or contamination in any medium, which the state certifying authority having jurisdiction with respect to such property has certified to the Department of Taxation, in conformity with regulations promulgated by the state certifying authority, will (i) materially reduce the amount of any pollutants or contaminants entering any waste stream or otherwise released into the environment, including fugitive emissions, prior to recycling, treatment, or disposal, and (ii) materially reduce the hazards to public health or the environment associated with the release of such pollutants or contaminants.*

"State certifying authority" ~~shall mean~~ *means* the State Water Control Board, for water pollution ~~, and~~ *; the* State Air Pollution Control Board, for air pollution ~~,~~ *; and the Virginia Waste Management Board, for waste as defined in § 10.1-1400,* and ~~shall include~~ *includes* any interstate agency authorized to act in place of a certifying authority of the Commonwealth.

§ 62.1-44.15. Powers and duties.—It shall be the duty of the Board and it shall have the authority:

(1) [Repealed.]

(2) To study and investigate all problems concerned with the quality of state waters and to make reports and recommendations.

(2a) To study and investigate methods, procedures, devices, appliances, and technologies which could assist in water conservation or water consumption reduction.

(2b) To coordinate its efforts toward water conservation with other persons or groups, within or without the Commonwealth.

(2c) To make reports concerning, and formulate recommendations based upon, any such water conservation studies to assure that present and future water needs of the citizens of the Commonwealth are met.

(3a) To establish such standards of quality and policies for any state waters consistent with the general policy set forth in this chapter, and to modify, amend or cancel any such standards or policies established and to take all appropriate steps to prevent quality alteration contrary to the public interest or to standards or policies thus established. The Board shall, from time to time, but at least once every three years, hold public hearings pursuant to subsection B of § 9-6.14:7.1 but, upon the request of an affected person or upon its own motion, hold hearings pursuant to § 9-6.14:8, for the purpose of reviewing the standards of quality, and, as appropriate, adopting, modifying, or cancelling such standards. Whenever the Board considers the adoption, modification, amendment or cancellation of any standard, it shall give due consideration to, among other factors, the economic and social costs and benefits which can reasonably be expected to obtain as a consequence of the standards as adopted, modified, amended or cancelled. The Board shall also give due consideration to the public health standards issued by the Virginia Department of Health with respect to issues of public health policy and protection. If the Board does not follow the public health standards of the Virginia Department of Health, the Board's reason for any deviation shall be made in writing and published for any and all concerned parties.

(3b) Except as provided in subdivision (3a), such standards and policies are to be adopted or modified, amended or cancelled in the manner provided by the Administrative Process Act (§ 9-6.14:1 et seq.).

(4) To conduct or have conducted scientific experiments, investigations, studies, and research to discover methods for maintaining water quality consistent with the purposes of

this chapter. To this end the Board may cooperate with any public or private agency in the conduct of such experiments, investigations and research and may receive in behalf of the Commonwealth any moneys which any such agency may contribute as its share of the cost under any such cooperative agreement. Such moneys shall be used only for the purposes for which they are contributed and any balance remaining after the conclusion of the experiments, investigations, studies, and research, shall be returned to the contributors.

(5) To issue certificates for the discharge of sewage, industrial wastes and other wastes into or adjacent to or the alteration otherwise of the physical, chemical or biological properties of state waters under prescribed conditions and to revoke or amend such certificates.

(5a) All certificates issued by the Board under this chapter shall have fixed terms. The term of a Virginia Pollution Discharge Elimination System permit shall not exceed five years. The term of a Virginia Pollution Abatement permit shall not exceed ten years, except that the term of a Virginia Pollution Abatement permit for concentrated animal feeding operations shall not exceed five years. The term of a certificate issued by the Board shall not be extended by modification beyond the maximum duration and the certificate shall expire at the end of the term unless an application for a new permit has been timely filed as required by the regulations of the Board and the Board is unable, through no fault of the permittee, to issue a new permit before the expiration date of the previous permit.

(5b) Any certificate issued by the Board under this chapter may, after notice and opportunity for a hearing, be amended or revoked on any of the following grounds or for good cause as may be provided by the regulations of the Board:

1. The owner has violated any regulation or order of the Board, any condition of a certificate, any provision of this chapter, or any order of a court, where such violation results in a release of harmful substances into the environment or poses a substantial threat of release of harmful substances into the environment or presents a hazard to human health or the violation is representative of a pattern of serious or repeated violations which, in the opinion of the Board, demonstrates the owner's disregard for or inability to comply with applicable laws, regulations, or requirements;

2. The owner has failed to disclose fully all relevant material facts or has misrepresented a material fact in applying for a certificate, or in any other report or document required under this law or under the regulations of the Board;

3. The activity for which the certificate was issued endangers human health or the environment and can be regulated to acceptable levels by amendment or revocation of the certificate; or

4. There exists a material change in the basis on which the permit was issued that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the certificate necessary to protect human health or the environment.

(6) To make investigations and inspections, to ensure compliance with any certificates, standards, policies, rules, regulations, rulings and special orders which it may adopt, issue or establish and to furnish advice, recommendations, or instructions for the purpose of obtaining such compliance. In recognition of §§ 32.1-164 and 62.1-44.18, the Board and the State Department of Health shall enter into a memorandum of understanding establishing a common format to consolidate and simplify inspections of sewage treatment plants and coordinate the scheduling of the inspections. The new format shall ensure that all sewage treatment plants are inspected at appropriate intervals in order to protect water quality and public health and at the same time avoid any unnecessary administrative burden on those being inspected.

(7) To adopt rules governing the procedure of the Board with respect to: (a) hearings; (b) the filing of reports; (c) the issuance of certificates and special orders; and (d) all other matters relating to procedure; and to amend or cancel any rule adopted. Public notice of every rule adopted under this section shall be by such means as the Board may prescribe.

(8a) To issue special orders to owners (i) who are permitting or causing the pollution, as defined by § 62.1-44.3, of state waters to cease and desist from such pollution, (ii) who have failed to construct facilities in accordance with final approved plans and specifications to construct such facilities in accordance with final approved plans and specifications, (iii) who have violated the terms and provisions of a certificate issued by the Board to comply with such terms and provisions, (iv) who have failed to comply with a directive from the Board to comply with such directive, (v) who have contravened duly adopted and promulgated water quality standards and policies to cease and desist from such contravention and to comply with such water quality standards and policies, (vi) who have violated the terms and provisions of a pretreatment permit issued by the Board or by the owner of a publicly owned treatment works to comply with such terms and provisions or (vii) who have contravened any applicable pretreatment standard or requirement to comply with such standard or requirement; and also to issue such orders to require any owner to comply with the provisions of this chapter and any decision of the Board.

(8b) Such special orders are to be issued only after a hearing with at least thirty days' notice to the affected owners, of the time, place and purpose thereof, and they shall become effective not less than fifteen days after service as provided in § 62.1-44.12; provided that if the Board finds that any such owner is grossly affecting or presents an imminent and substantial danger to (i) the public health, safety or welfare, or the health of animals, fish or aquatic life; (ii) a public water supply; or (iii) recreational, commercial, industrial, agricultural or other reasonable uses, it may issue, without advance notice or hearing, an emergency special order directing the owner to cease such pollution or discharge immediately, and shall provide an opportunity for a hearing, after reasonable notice as to the time and place thereof to the owner, to affirm, modify, amend or cancel such emergency special order. If an owner who has been issued such a special order or an emergency special order is not complying with the terms thereof, the Board may proceed in accordance with § 62.1-44.23, and where the order is based on a finding of an imminent and substantial danger, the court shall issue an injunction compelling compliance with the emergency special order pending a hearing by the Board. If an emergency special order requires cessation of a discharge, the Board shall provide an opportunity for a hearing within forty-eight hours of the issuance of the injunction.

(8c) The provisions of this section notwithstanding, the Board may proceed directly under § 62.1-44.32 for any past violation or violations of any provision of this chapter or any regulation duly promulgated hereunder.

(8d) With the consent of any owner who has violated or failed, neglected or refused to obey any regulation or order of the Board, any condition of a permit or any provision of this chapter, the Board may provide, in an order issued by the Board against such person, for the payment of civil charges for past violations in specific sums not to exceed the limit specified in subsection (a) of § 62.1-44.32. Such civil charges shall be instead of any appropriate civil penalty which could be imposed under subsection (a) of § 62.1-44.32 and shall not be subject to the provisions of § 2.1-127. Such civil charges shall be paid into the state treasury and deposited by the State Treasurer into the Virginia Environmental Emergency Response Fund pursuant to Chapter 25 of Title 10.1, excluding civil charges assessed for violations of Article 9 or 10 of Chapter 3.1 of Title 62.1, or a regulation, administrative or judicial order, or term or condition of approval relating to or issued under those articles.

The amendments to this section adopted by the 1976 Session of the General Assembly shall not be construed as limiting or expanding any cause of action or any other remedy possessed by the Board prior to the effective date of said amendments.

(9) To make such rulings under §§ 62.1-44.16, 62.1-44.17 and 62.1-44.19 as may be required upon requests or applications to the Board, the owner or owners affected to be notified by certified mail as soon as practicable after the Board makes them and such rulings to become effective upon such notification.

(10) To adopt such regulations as it deems necessary to enforce the general water

quality management program of the Board in all or part of the Commonwealth.

(11) To investigate any large-scale killing of fish.

(a) Whenever the Board shall determine that any owner, whether or not he shall have been issued a certificate for discharge of waste, has discharged sewage, industrial waste, or other waste into state waters in such quantity, concentration or manner that fish are killed as a result thereof it may effect such settlement with the owner as will cover the costs incurred by the Board and by the Department of Game and Inland Fisheries in investigating such killing of fish, plus the replacement value of the fish destroyed, or as it deems proper, and if no such settlement is reached within a reasonable time the Board shall authorize its executive secretary to bring a civil action in the name of the Board to recover from the owner such costs and value, plus any court or other legal costs incurred in connection with such action.

(b) If the owner be a political subdivision of the Commonwealth the action may be brought in any circuit court within the territory embraced by such political subdivision. If the owner be an establishment, as defined in this chapter, the action shall be brought in the circuit court of the city or the circuit court of the county in which such establishment is located. If the owner be an individual or group of individuals the action shall be brought in the circuit court of the city or circuit court of the county in which such person or any of them reside.

(c) For the purposes of this subsection the State Water Control Board shall be deemed the owner of the fish killed and the proceedings shall be as though the State Water Control Board were the owner of the fish. The fact that the owner has or held a certificate issued under this chapter shall not be raised as a defense in bar to any such action.

(d) The proceeds of any recovery had under this subsection shall, when received by the Board, be applied, first, to reimburse the Board for any expenses incurred in investigating such killing of fish. The balance shall be paid to the Board of Game and Inland Fisheries to be used for the fisheries' management practices as in its judgment will best restore or replace the fisheries' values lost as a result of such discharge of waste, including, where appropriate, replacement of the fish killed with game fish or other appropriate species. Any such funds received are hereby appropriated for that purpose.

(e) Nothing in this subsection shall be construed in any way to limit or prevent any other action which is now authorized by law by the Board against any owner.

(f) Notwithstanding the foregoing, the provisions of this subsection shall not apply to any owner who adds or applies any chemicals or other substances that are recommended or approved by the State Department of Health to state waters in the course of processing or treating such waters for public water supply purposes, except where negligence is shown.

(12) To administer programs of financial assistance for planning, construction, operation, and maintenance of water quality control facilities for political subdivisions in this Commonwealth.

(13) To establish policies and programs for effective area-wide or basin-wide water quality control and management. The Board may develop comprehensive pollution abatement and water quality control plans on an area-wide or basin-wide basis. In conjunction with this, the Board, when considering proposals for waste treatment facilities, is to consider the feasibility of combined or joint treatment facilities and is to ensure that the approval of waste treatment facilities is in accordance with the water quality management and pollution control plan in the watershed or basin as a whole. In making such determinations, the Board is to seek the advice of local, regional, or state planning authorities.

(14) To establish requirements for the treatment of sewage, industrial wastes and other wastes that are consistent with the purposes of this chapter; however, no treatment will be less than secondary or its equivalent, unless the owner can demonstrate that a lesser degree of treatment is consistent with the purposes of this chapter.

15. To promulgate regulations establishing criteria and procedures for making

certifications pursuant to § 58.1-3660 that equipment or facilities materially reduce the amount of any pollutants or contaminants entering any waste stream or the environment, and materially reduce the hazards to public health or the environment associated with the release of such pollutants or contaminants.

Official Use By Clerks	
Passed By The Senate	**Passed By The House of Delegates**
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
Clerk of the Senate	Clerk of the House of Delegates

1993 SESSION

LD9130685

SENATE JOINT RESOLUTION NO. 207

Offered January 18, 1993

Continuing the Joint Subcommittee Studying Pollution Prevention.

Patrons—Houck, Howell and Quayle; Delegates: Clement, Hamilton, Keating and Plum

Referred to the Committee on Rules

WHEREAS, Senate Joint Resolution 103 of 1992 established the Joint Subcommittee Studying Pollution Prevention; and

WHEREAS, the joint subcommittee has examined numerous issues and developed several recommendations; and

WHEREAS, due to the large quantity and complexity of the issues involved, the joint subcommittee has agreed that another year of study is necessary; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Joint Subcommittee Studying Pollution Prevention be continued. The membership of the joint subcommittee shall continue as established by Senate Joint Resolution 103 of the 1992 Session of the General Assembly. Vacancies shall be filled in the same manner as the original appointment. The charge of the joint subcommittee shall remain as set forth in Senate Joint Resolution 103.

The joint subcommittee shall complete its work in time to submit its findings and recommendations to the Governor and the 1994 Session of the General Assembly in accordance with the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

The indirect costs of this study are estimated to be $10,860; the direct cost of this study shall not exceed $8,640.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

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Agreed to By The Senate		**Agreed to By The House of Delegates**	
without amendment	☐	without amendment	☐
with amendment	☐	with amendment	☐
substitute	☐	substitute	☐
substitute w/amdt	☐	substitute w/amdt	☐
Date: _____		Date: _____	
Clerk of the Senate		Clerk of the House of Delegates	

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January 4, 1993

BY TELECOPIER AND FIRST CLASS MAIL

Senator R. Edward Houck, Chairman
Jt. Subcommittee on Pollution Prevention
P. O. Box 7
Spotsylvania, Virginia 22553

RE: Pollution Prevention Draft Legislation

Dear Senator Houck:

Please accept these tardy comments on the draft legislation. A post-Christmas virus laid me low for a couple of days and put me behind schedule. I hope these comments will get to you in time to useful for our Thursday meeting.

I have two fundamental concerns regarding any pollution prevention legislation which may be recommended by this committee. The first is that there must be a comprehensive and comprehensible definition of what we mean by pollution prevention. We cannot promote legislation that will confer public benefits for pollution prevention unless we have a readily understood definition of the behavior we're proposing to reward. A related concern is that any rewards which we may be proposing as incentives for pollution prevention should be directly related to pollution prevention efforts. Pollution prevention legislation should not be used to try to avoid or weaken other regulatory requirements not directly related to pollution prevention.

Secondly, I think any legislation we propose should have state-wide targets for toxics reductions. My experience, and I'm sure you've noticed the same thing, is that there's always tremendous reluctance to set legislative targets; yet the Commonwealth has set targets in the past, and has met them. I'm sure you'll recall the controversy that surrounded the 40% nutrient reduction commitment made in the 1987 Chesapeake Bay Agreement, the recycling targets established by the legislature, the solid-waste disposal regulations, underground storage tank regulations, etc., etc. The fact is that we have now met the nutrient reduction commitment in the Bay Agreement, and many localities are successfully and with relatively little agony moving toward the recycling and solid

waste disposal goals. The underground storage tank regulations have also been implemented without great economic dislocation or public hardship. The controversy over recycling goals was fierce; yet, today, there is absolutely no debate about whether recycling is necessary in our society, and many people who objected to those targets now recommend with a straight face that source separation and recycling be required by local ordinance. Targets are a necessary way to get people to focus on and improve their behavior.

I, for one, was stunned by the information that Virginia releases more toxics to its environment than most other states in these United States. I recognize there may be debate over whether the calculations were done correctly, but I don't think any adjustment of them would bring us out of the bottom ten of the states in this country. Virginia doesn't belong in that category. We're hardly the most industrialized state in these United States, and we should not be vying for the honor of being the state with most toxic releases per capita. If Virginia does not adopt a prevention program which includes a clear and strong definition and state-wide targets, I sincerely believe that decision will ultimately rebound in an negative way. If we continue to be among the states with the highest levels of toxics discharged per year, we will necessarily become one of the states in which industries will have to include the cost of pretreatment in any business location or expansion decision, and this cannot be helpful to this Commonwealth.

In the time available to me I've not been able to craft a suggested toxics reduction state-wide target, but I will try to do so between now and Thursday. The recycling targets contained in §10.1-1411 may be a good model for us. Targets should be included in any draft legislation regarding approvable pollution prevention plans and in the pollution prevention program. I suggest state-wide toxics reduction targets be inserted in section 1, subparagraph (v), of the pollution plans ("Incentive") draft and in the pollution prevention program ("P^2 Program") draft at §10.1-1425.11 as an addition to the pollution prevention policy statement.

With respect to the specific pieces of legislation, the bill titled **"Partners"** looks fine, except I think we need to change the charge to the committee, specifically, the language on page 2, starting on line 7. I would revise that paragraph to read:

> The Committee shall consider, among other approaches, how the Commonwealth can (i) encourage research and development of technologies and innovative approaches that will reduce the toxicity and volume of chemical inputs in industry, (ii) incorporate flexibility in the issuance of environmental permits to allow the use of pollution prevention activities as a means of compliance with regulatory requirements; and (iii) increase public and private sector awareness of pollution prevention benefits and opportunities.

We don't want P^2 to be an alternative to existing regulatory requirements/standards; rather it should be an allowable means of achieving compliance with those standards.

Regarding the draft legislation on the **P^2 Program**: I like the definition in §10.1-1425.10 - especially its inclusion of non-toxic wastes. This is a broader definition of P^2 than that proposed by CBF, which I hope will give VMA some comfort. I'm comfortable with this definition, and as I've said earlier, I feel very strongly that we cannot promote legislation that will confer public benefits for P^2 without a readily-understood definition of the behavior we're proposing to so reward.

I like the policy statement in §10.1-1425.11. We should set out the waste hierarchy in all P^2 efforts.

In §10.1-1425.12 I'm not sure what lines 25 and 26 mean: at what stage will the draft rules be reviewed? Do we mean to include only administrative rules and regulations of DEQ or of all state agencies? (Think of how VDOT or VDACs regulations could affect P^2!) Do we need to revise the APA in order to achieve what we need or are we aiming for something less comprehensive here? To whom do the P^2 office's comments go?

On the **Pollution Prevention plans** (draft legislation labeled **"Incentive"**), I think the technical assistance provisions need to be tightened up to limit the expedited permits, variances and advocacy to that necessary to implement the P^2 plan. This is a point which I raised at our last meeting, and the language of concern starts at line 20 on page 2 of the draft. As I noted at our meeting, it's surely not our intention to allow approval of a P^2 plan for a relatively limited aspect of a permittee's operation to be

used as leverage for variances, advocacy and expedited review for all of that applicant's facilities and operations throughout the Commonwealth. Acceptable revised language might be:

> Section 3. Technical assistance for facilities with approved pollution prevention plans.--The Department shall provide the following technical assistance to facilities for which pollution prevention plans are approved:
>
> (i) Expedited coordination and processing of environmental permit applications <u>required to implement the approved pollution prevention plan</u>;
>
> (ii) cooperation, as appropriate, with any request for an applicable variance, adjusted standard or site-specific standard, to the extent feasible under applicable law and <u>necessary to implement the approved pollution prevention plan</u>;
>
> (iii) active support in seeking necessary federal, state or local governmental approvals for operations <u>necessary to implementation of the pollution prevention plan</u>; and
>
> (iv) appropriate technical assistance <u>to assist the applicant in avoiding or eliminating</u> potential regulatory compliance problems resulting from a process proposed in the pollution prevention plan.

I have hesitations which prevent me from supporting legislation establishing a pollution prevention **revolving fund** and adding authority for the director of DEQ to use **Virginia Environmental Emergency Response Fund** monies to support the Office of Pollution Prevention. I would be a great deal more excited about each of these proposals if there were an identifiable new source of funding for the revolving fund and to add to the emergency response fund. I suggest we seriously consider the efficacy and appropriateness of a generator's tax in this context. A generator's tax could, in itself, encourage pollution prevention in the most obvious way. Moreover, it would be a particularly appropriate source of funding for responding to pollution events, supporting technical assistance to private industries for their pollution prevention activities, and providing low interest loans to the private sector for capital improvements. As I noted in our last meeting, the Connecticut program which the VMA endorses includes a

generator tax which helps pay for the technical assistance provided through the Connecticut pollution prevention technical assistance program.

Access to the **revolving fund** should probably be limited initially to companies below a certain size since smaller firms are more likely to have the most difficulty in affording and getting reasonable financing for pollution prevention capital improvements.

Finally, I would suggest that no **tax credit** for pollution prevention and no legislation expanding **bonding authority** or **sales tax** forgiveness should be allowed except where the investment to receive the public benefit achieves a legislatively-defined state-wide pollution prevention target for toxics.

Again, I apologize to you and the other members for not getting these comments to you earlier. I look forward to seeing you on Thursday.

Very truly yours,

Georgia H. Herbert

cc: Members, Pollution Prevention Committee