APPENDIX E
Emission Reductions from Control Measures Included in the 15% Rate of Progress Plan

The Post-1996 Rate of Progress Plan (RPP) includes emission reductions from control measures included in the 15% RPP. These calculations represent the projection of emission reductions from these control measures, not additional reductions beyond 1996. Therefore, the emission reduction calculations are developed for control measures included under area and point sources. Additional emission reductions are expected for mobile and offroad sources. In addition, tables with revised emission reductions for the 15% RPP are included for the Baltimore Nonattainment Area and Cecil County.

1.0 AREA SOURCES

1.1 Architectural and Industrial Maintenance Coatings

This measure involves adopting the Federal rule for Architectural and Industrial Maintenance Coatings.

Description of Source Category:

Architectural and industrial maintenance coatings are field-applied coatings used by industry, contractors, and homeowners to coat houses, buildings, highway surfaces, and industrial equipment for decorative or protective purposes. The different types of coatings include flat, non-flat coatings, and numerous specialty coatings. VOC emissions result from the evaporation of solvents from the coatings during application and drying.

Control Strategy for Source Category:

Because the users of these coatings are small and widespread, requiring the use of add-on control devices is technically and economically infeasible. Reductions in VOC emissions must therefore be obtained through product reformulation.

Product reformulation is the process of modifying the current formulation of the coating, in this case to obtain a lower VOC content. Product reformulation can involve one or several of the following approaches:

- replacing VOC solvents with non-VOC solvents;
- increasing the solids content of the coating;
- altering the chemistry of the resin so that less solvent is needed for the required viscosity;
- switching to a waterborne latex or water-soluble resin system.

The Department expects to obtain VOC emissions reduction through the implementation of a federal rule for Architectural and Industrial Maintenance Coatings.

Expected Emissions Reductions, Methodology and Sample Calculation:

The projected emissions for 1999 are 27.44 and 0.88 tons per day. These figures are totals of the estimates for the architectural coating, traffic markings, industrial maintenance coatings and other coatings categories. The national regulation would control the above mentioned

coating categories.

Based upon an EPA guidance memorandum (EPA Memorandum entitled "Credit for the 15 Percent Rate-of-Progress Plans for Reductions from the Architectural and Industrial Maintenance Coating Rule, dated March 22, 1995) an emissions reductions of 20 percent could be applied towards the requirements of the RPP. This memo can be found in Appendix A. The emission reductions were calculated as follows:

1996 Projected Emissions (Tons per day) * Expected Emissions Reduction (Percentage) = Expected Emissions Reduction (Tons per day)

Baltimore Nonattainment Area
27.44 Tons per day * 0.2 = 5.5 Tons per day

Cecil County
0.84 Tons per day * 0.2 = 0.2 Tons per day

1.2 Commercial and Consumer Products

This measure requires that certain consumer products be reformulated to reduce their VOC content. This measure is based upon upcoming regulations EPA is required under the Act.

Description of Source Category:
Consumer and commercial products are items sold to retail customers for household, personal or automotive use, along with the products marketed by wholesale distributors for use in institutional or commercial settings such as beauty shops, schools, and hospitals. VOC emissions result from the evaporation of solvent contents in the products or solvents used as propellants.

Control Strategy for Source Category:
Control strategies to reduce emissions from consumer products include reformulation of the product, modified and alternative dispensing or delivery systems, and product substitution or elimination.

Product reformulation can be accomplished by substituting the VOCs in the product with water, other non-VOC ingredients, or low-VOC solvents.

Alternative application techniques modify the product delivery system and include traditional as well as innovative ways to reduce VOC emissions. This option applies primarily to aerosol products, which produce the majority of the VOC emissions from this category. Methods include the substitution of a handpump in replacement of the traditional propellants to deliver the product or changing the delivery system from an aerosol to a liquid, solid or powder form.

Product substitution or elimination involves replacing high-VOC products with low or non-VOC emitting products.

The Department expects to obtain VOC emissions reduction through the implementation of federal regulations which would establish VOC content standards for various consumer

product categories.

Expected Emissions Reductions, Methodology and Sample Calculation:
Based upon an EPA guidance memorandum (EPA Memorandum entitled "Regulatory Schedule for Consumer and Commercial Products under Section 183(e) of the Clean Air Act, dated June 22, 1995) an emissions reductions of 20 percent could be applied towards the requirements for the Rate-of-Progress plan. However, this emission reduction can be applied to a subset of the entire consumer/commercial products category. This memo can be found in Appendix A. Using this emissions reduction percentage the expected emissions reductions is determined as follows:

1999 Subset Projected Emissions (Tons per day) * Expected Emissions Reduction (Percentage) = (population)*(emission factor) * (conversion factors) * (growth) * (emission reduction %) = Expected Emissions Reduction (Tons per day)

Baltimore Nonattainment Area
(2348219 persons)*(3.9 lbs/yr-person)*(1yr/365days)*(1ton/2000lbs)*(1.0831)* 0.2 =

(12.5 tons per day) * 1.0831 * 0.2 = 2.7 Tons per day

Cecil County
(71347 persons)*(3.9 lbs/yr-person)*(1yr/365days)*(1ton/2000lbs)*(1.0831)* 0.2 =

(0.4 tons per day) * 1.0831 * 0.2 = 0.1 Tons per day

1.3 Automobile Refinishing

This measure requires large and small autobody refinishing operations to use controls based upon Maryland's regulation.

Description of Source Category:
Automobile refinishing is the repainting of worn or damaged automobiles, light trucks and other vehicles. The different types of coatings include primers, surfacers, sealers, topcoats and some specialty coatings. VOC emissions result from the evaporation of solvents from the coatings during application, drying and clean up techniques.

Control Strategy for Source Category:
The regulation adopted by the Department requires the use of reformulated coatings. In addition, the regulation requires the use of equipment with a greater transfer efficiency in the application of the coatings.

Expected Emissions Reductions, Methodology, and Sample Calculations:
The 1990 base year emissions estimate using EPA adopted emission factors for this category was 10.39 tons per day from area sources and 0.2 tons per day from point sources for the Baltimore nonattainment area and 0.37 tons per day for Cecil County. The projected emissions for 1999 are 12.46 tons per day and 0.39 for the Baltimore nonattainment area and Cecil County, respectively.

The Department adopted a regulation which obtains a 45% reduction in emissions. The emissions reduction was calculated as follows:

1999 Projected Emissions (Tons per day) * Expected Emissions Reduction (Percentage) = Expected Emissions Reduction (Tons per day)

Baltimore Nonattainment Area
12.46 Tons per day * 0.45 = 5.6 Tons per day

Cecil County
0.44 Tons per day * 0.45 = 0.2 Tons per day

1.4 Surface Cleaning/Degreasing

This control measure requires small degreasing operations like gasoline stations, autobody paint shops and machine shops to use less polluting degreasing solvents based upon Maryland's regulation.

Description of Source Category:

Cold degreasing is an operation that uses solvents and other materials to remove oils and grease from metal parts including automotive parts, machined products and fabricated metal components.

Control Strategy for Source Category:

The regulation adopted by the Department requires the reformulation of cold degreasers to either aqueous solutions or low VOC formulations.

Expected Emissions, Reductions, Methodology and Sample Calculations

The projected emissions for 1999 using Bureau of Economic Analysis growth factors are 10.35 and 0.34 tons per day. Based upon the regulation adopted by the Department, an emission reduction of 70% is expected. The emission reductions was calculated as follows:

1999 Projected Emissions (Tons per day) * Expected Emissions Reductions (Percentage) = Expected Emissions Reductions (Tons per day)

Baltimore Nonattainment Area
10.35 Tons per day * 0.7 = 7.2 tons per day

Cecil County
0.32 Tons per day * 0.7 = 0.2 Tons per day

1.5 Municipal Landfills

This measure would require municipal landfills to add new controls based on Federal rule/ guidance.

Description of Source Category:

A municipal solid waste landfill is a disposal facility in a contiguous geographical space where household waste is placed and periodically covered with inert material. Landfill gases are

produced from the aerobic and anaerobic decomposition and chemical reactions of the refuse in the landfill. Landfill gases consist primarily of methane and carbon dioxide, with volatile organic compounds making up less than one percent of the total emissions. Although the percentage for VOC emissions seems small, the total volume of gases is large.

Control Strategy for Source Category:
The control strategy for this source category is based upon the EPA's New Source Performance Standard (NSPS) and Guidelines. The Department expects to promulgate a regulation according to the NSPS and Guidelines.

Expected Emissions Reductions, Methodology and Sample Calculation:
The current emissions reductions is 0.2 tons per day in the Baltimore nonattainment area. The following table specifies the emission reductions occuring at each landfill.

1.6 Stage I Vapor Recovery

This control measure requires Stage I Vapor Recovery RACT regulations to be extended into Cecil County. This control measure already applied in the Baltimore nonattainment area and was adopted for the rest of the state on April 26, 1992.

Description of Source Category:
VOCs are released when gasoline storage tanks are filled by gasoline delivery trucks. The incoming gasoline forces vapors produced in the tank into the atmosphere. Emissions are directly related to gasoline throughput.

Control Strategy for Source Category:
RACT for gasoline storage/handling requires tank trucks refilling underground storage tanks at service stations use a vapor recovery system to return the vapors from the underground tank to the tank truck. The vapor-filled tank returns to the bulk storage facility where the vapors are cycled through control devices to eliminate VOC emissions.

Expected Emissions Reductions, Methodology and Sample Calculation:
The Department expects several sources in Cecil County, to which to this regulation never applied, to be affected by this amendment. Waste management regulations regarding underground storage tanks have led to the use of submerged fill tanks throughout Maryland. Therefore, 1990 baseline emissions were calculated using emissions factors appropriate for submerged filling with an 80% rule effectiveness and 98% rule penetration applied. Emissions for tank truck unloading for Cecil County were 0.82 tons per day. The 1999 projected emissions are 0.92 tons per day. The emissions reductions expected are 0.8 tons per day. The emissions reductions were calculated as follows:

<u>Calculation of 1999 Projected Emissions with Stage I Vapor Recovery Controls</u>
Project gasoline sales using BEA factor:

2,085,254,407 gallons sold in Maryland in 1990

1.1025 x 2,085,254,407 = 2,298,992,984 gallons projected sold in 1996.

Calculate expected emissions based on projected sales and use of balanced submerged filling of tanks with 80% rule effectiveness and 98% rule penetration:

Proportion gasoline sales to Cecil County using vehicle registration:

$$2{,}341{,}115{,}123 \text{ gals} \times \frac{57{,}019 \text{ vehicles in Cecil County}}{3{,}460{,}983 \text{ vehicles in Maryland}} =$$

37,875,448 gals per year

VOC emissions using balanced submerged fill emissions factor:

$$(37{,}875{,}448 \frac{\text{gal}}{\text{year}}) \times (\frac{0.3 \text{ lbs VOC}}{1{,}000 \text{ gal}}) \times (\frac{1 \text{ ton}}{2{,}000 \text{ lbs}}) \times (\frac{1 \text{ year}}{365 \text{ days}})$$

= 0.016 tons / day

Apply rule effectiveness and rule penetration to controlled emissions

$$0.016 \times \frac{1 - [(.95)(.80)(.98)]}{1-.95} = 0.08 \text{ tons/day}$$

Emission Reductions = 1999 Projected Emissions - 1999 Projected Emissions with Stage I Vapor Recovery Control

Emissions Reductions = (0.92 -.08) tons per day = 0.8 Tons per day

2.0 Point Sources

2.1 Polystyrene Blowing Operations

This measure requires RACT to be installed at operations that manufacture foam cups, foam insulation and other foam products.

Description of Source Category:

These sources use expandable polystyrene beads that contain pentane, a VOC, to manufacture foam products such as foam cups, board insulation, and custom shapes.

There are three different stages of operation during which VOC emissions typically occur: storage and pre-expansion of the beads, manufacturing the product, and aging emissions occur because of the slow diffusion of the blowing agent (pentane) from the foam before shipping.

Control Strategy for Source Category:

The regulation adopted by the Department requires the use of reformulated, low VOC beads.

Expected Emissions Reductions, Methodology and Sample Calculation:
The projected emissions for 1999 are 0.35 tons per day. These figures are totals of the estimates for the polystyrene blowing operations in the Baltimore nonattainment area. Based upon the regulations adopted in Georgia and an Illinois draft, the proposed measure should result in a 30 percent reduction in VOC emissions (Georgia 1993, Illinois 1993).

The emissions reductions was calculated as follows:

1990 Emission (Tons per day) * Growth Factor * Expected Emissions Reduction (Percentage) = Expected Emissions Reduction (Tons per day)

0.34 Tons per day * 1.075 * 0.30 = 0.1 Tons per day

2.2 Yeast Manufacturing

This measure requires RACT to be installed at two yeast manufacturing operations in the Baltimore nonattainment area.

Description of Source Type
Yeast is produced using an aerated fermentation process under controlled conditions. The fermentation process generates significant quantities of ethanol and other VOC's. The yeast is used in baking and wine processes.

Control Strategy for Source Category:
The regulation adopted by the Department requires the use of improved process control techniques.

Expected Emissions Reductions, Methodology, and Sample Calculations:
The 1990 base year emissions estimate is 0.9 tons per day. The 1999 projected emissions for this category are 1.05 tons per day. The Department expects to obtain an overall emission reduction of approximately 66 percent from the 1990 baseline by adopting a regulation. The expected emission reductions from this measure is 0.7 tons per day.

The emission reductions were calculated as follows:

1990 Emissions (Tons Per Day) * Growth Factor * Expected Control Efficiency (Percent) = Expected Emission Reduction (Tons Per Day)

1.0 Tons Per Day * 1.164 * 0.66 = 0.8 Tons Per Day

2.3 Commercial Bakery Ovens

This measure requires commercial bakeries using yeast to leaven bread and bread products to install control devices.

Description of Source Category:
Commercial bakeries generate VOC emissions from the fermentation and baking processes used to produce yeast-raised baked goods. These emissions are primarily ethanol. VOC

resulting from the fermentation and baking are currently discharged directly into the air.

Control Strategy for Source Category:
The regulation adopted by the Department requires the large bakery ovens to be equipped with a control device with at least 80 percent control efficiency. Since the oven vents will be ducted directly into a control device, capture efficiency will be 100 percent. The Department believes that most bakery ovens will be equipped with catalytic oxidizers with a destruction efficiency of at least 95 percent.

Expected Emissions Reductions, Methodology, and Sample Calculations:
The 1990 base year emissions estimate is 1.0 tons per day. The 1999 projected emissions for this category are 1.0 tons per day. The expected emission reductions from this measure is 0.7 tons per day.

The emission reductions were calculated as follows:

1990 Emissions (Tons Per Day) * Growth Factor * Expected Control Efficiency (Percent) * Rule Effectiveness = Expected Emission Reduction (Tons Per Day)

1.0 Tons Per Day * 1.032 * 0.8 * 0.8 = 0.7 Tons Per Day

2.4 Screen Printing

This measure would require certain small printing operations to use alternative inks.

Description of Source Category:
A screen printing process is used to apply printing or an image to virtually any substrate. In the screen printing operation, ink is distributed through a porous screen mesh to which a stencil may have been applied to define an image to be printed on a substrate. The printed substrate is then placed on a drying rack or in a drying unit. After the screen is used, it is transferred to a screen reclamation process to be cleaned for reuse. During this process the ink residue is removed with solvents. Sometimes stencil material and hardened ink appear as a "ghost image" from previous stencil applications. Separate solvent material is used to remove this image.

VOC emissions result from the evaporation of ink solvents and from the use of solvents for cleaning. The major source of VOC emissions is the printing process.

Control Strategy for Source Category:
The regulation adopted by the Department requires the use of reformulated inks, process printing modification, and material substitution for cleaning operations.

Expected Emissions Reductions, Methodology and Sample Calculation:
The total expected emissions for this category is tons per day. The projected emissions for this category is tons per day.

Using this emissions reduction percentage the expected emissions reductions for this category is 0.6 tons per day. The emissions reductions was calculated as follows:

1990 Emissions (Tons per day) * Growth Factor * Expected Emissions Reduction (Percentage) = Expected Emissions Reduction (Tons per day)

1.5 Tons per day *1.16 * 0.35 = 0.6 Tons per day

2.6 Graphics Arts

This measure would require smaller printers to substitute fountain solutions used in the process.

Description of Source Category:

This source category consists of numerous small sheet fed printers that perform non-continuous printing and web printers that print on a continuous web or roll. Heat set web printers use drying ovens to force dry the printed matter. Web printing sources perform high volume printing on paper or paperboard.

VOC emissions to the air are caused by evaporation of the ink solvents, alcohols in the fountain or dampening solution, and equipment wash solvents. Emissions from sheet fed presses are minimal because most of the VOC from the inks are absorbed in the printed matter. About one third of the VOC from web printing ink is absorbed in the printed matter.

Historically, lithographic web printers have used up to 35 percent isopropyl alcohol in the fountain solutions. The volatile alcohol evaporated relatively quickly causing significant VOC emissions. The industry eventually found non-volatile substitutes for the isopropyl alcohol. Web printers are able to utilize 100 percent substitution, however, sheet fed printers with older design printing presses may require a limited amount of alcohol to achieve the required dampening.

Control Strategy for Source Category:

Maryland adopted a lithographic printing regulation in 1989 which required that the use of isopropyl alcohol be used by January 1, 1992.

Specifically, the control measure requires that:

- Web printers use no alcohol in the fountain solutions; and
- Sheet fed printers use no more than 8.5 percent isopropyl absorbed in the fountain solution and refrigerate the solution must be refrigerated to 55^{o}F or less.

Expected Emissions Reductions, Methodology, and Sample Calculations:

The expected emission reduction from this control measure is estimated to be 0.5 tons per day. The total annual IPA reduction was estimated at 0.5 tons per day emissions.

The Department developed a survey of sources subject to the control measure. The total expected emissions subject to the control measure is 0.5 tons per day. The projected emissions for this category is 0.6 tons per day.

The expected emissions reductions for this category is 0.6 tons per day. The emissions reductions was calculated as follows:

1990 Emissions (Tons per day) * Growth Factor * Expected Emissions Reduction (Percentage) = Expected Emissions Reduction (Tons per day)

0.5 Tons per day *1.16 * 1 = 0.6 Tons per day

2.7 STATE AIR TOXICS

This measure addresses stationary sources that are covered by Maryland's air toxics regulations that have achieved VOC reductions above and beyond current federally enforceable limits.

Description of Sources Category:

In general, Maryland's air toxics regulations cover any source required to obtain a permit to construct or an annually renewed state permit to operate.

Control Strategy for Source Category:

The Department adopted the air toxics regulations in 1988. VOC reductions above and beyond current federally enforceable limits will be made federally enforceable through the use of Section 112(l) of the Act, Title V permits and The General Provisions of Title III of the Act.

Expected Emissions Reductions, Methodology and Sample Calculations:

The table that follows lists the specific sources covered by this measure, the 1990 base year VOC emissions, the estimated VOC reduction in tons per day and a brief explanation of why, under the State air toxics regulations, the reduction was required.

VOC EMISSION REDUCTIONS FROM STATE AIR TOXICS REQUIREMENTS

Company	**1990 Base Year Inventory Emissions (TPY)**	**Emission Reduction by 1999 (TPD)**	**Description of Controls used to obtain Emission Reductions**
American Cyanamid	169	0.006	Added after condensers on "Daymax" mixers and solvent storage tanks
Quebecor	1068	0.89	Increased capture efficiency and ink reformulation to lower toluene content
Sweetheart Cup	59	0.11	Use of infrared inks and encapsulation of printing units
Vista	60	0.09	Increased number of process vents controlled and installed flare
TOTAL	**--**	**1.1**	

2.7 FEDERAL AIR TOXICS:

This measure covers sources that are required to comply with Federal air toxics requirements that have or will achieve VOC reduction between 1990 and 1999.

Description of Source Category:

The specific sources included in this measure are identified in the table that follows.

Control Strategy for Source Category:

The Department has delegation to implement Federal air toxics rules that will achieve VOC emissions reductions creditable towards the RPP and will adopt by reference future rules as EPA promulgates them. Federal rules that may achieve such reductions include Federal NESHAPs for vinyl chloride production plants and benzene emissions from equipment leaks, benzene storage vessels, coke by-product recovery plants, benzene transfer operations and waste operations.

In addition this measure could include reductions from Maximum Achievable Control Technology (MACT) standards scheduled for completion in November of 1992 and 1994 with full implementation required in November of 1995 and 1997 respectively. Source categories covered by the 1992 MACT standards include the Hazardous Organic NESHAP (HON), coke ovens, dry cleaners, and chromium electroplating. Table 6.4 lists EPAs current schedule for adopting MACT standards through 1995.

Expected Emission Reductions, Methodolgy and Sample Calculation:

The following table lists the sources included in this measure, the 1990 Base Year VOC inventory, the applicable Federal rule, the estimated emission reduction and a brief explanation of the procedures used to calculate the benefit.

VOC EMISSION REDUCTIONS FROM FEDERAL AIR TOXICS REQUIREMENTS

Company	1990 Base Year Inventory by 1996 (TPY)	Emission Reduction by 1996 (TPD)	Applicable Federal Rule	Explanation of Calculations for Emission Reductions
Bethlehem Steel - Coke Ovens - Chemical Recovery Plant	395	0.46	MACT Standard 9/30/93	MACT standards applied to typical coke oven production; 90% reduction assumed for coal chemical recovery plant
ST Services	11	0.008 NESHAP	Benzene operations	Installed flare to control loading
TOTAL	**0.5**			

2.8 Rule Effectiveness

This measure involves enhancing rule compliance by increasing or in other ways improving the enforcement of existing regulations.

Description of Sources Covered:

Enhanced rule compliance or rule effectiveness reflects the ability of a regulatory program to achieve all the emission reductions that could have been achieved by *full compliance* with the applicable regulations at *all* sources at *all times.*

This control measure covers the specific sources and source categories listed in Table 4. These sources and source categories have been determined by the Department to be areas in which rule effectiveness can be improved.

Control Strategy:

Enhanced Rule Compliance or rule effectiveness (RE) improvement refers to an improvement in the implementation of and compliance with a regulation. These RE improvements may take several forms, ranging from more frequent and in-depth training of inspectors to larger fines for sources that do not comply with a given rule. RE improvements are an important control strategy in areas that have already adopted RACT for many of their larger sources prior to 1990.

The purpose of an RE improvement is to give state and local agencies additional means for achieving actual reductions for their State Implementation Plans (SIPs). Title I of the Clean air Act identifies RE improvements as one of the measures that can be used to meet the 15-percent volatile organic compound (VOC) reduction requirements by November 15, 1996.

Expected Emission Reductions

To estimate creditable emissions reductions from RE improvements, state and local agencies require a methodology to quantify the predicted RE increase. The methodology must measure the impact of specific improvement measures available to a state or local agency. In the absence of any compliance or emissions data to quantitatively assess RE improvement measures, EPA's Ozone/Carbon Monoxide Programs branch developed an RE matrix. The RE matrix is based on a questionnaire that EPA used to estimate base rule effectiveness for source categories. The following principles guided the development of the matrix:

- All state and local agencies should be guaranteed at least 80 percent base RE;
- State and local agencies with an RE well above the 80-percent default should receive more emissions reduction credits for an RE improvement than agencies near the 80-percent default;
- RE improvements should be documented in a permit or in a SIP revision; and
- One-hundred-percent RE is achieved in cases of direct determination of emissions or elimination of VOCs or other pollutants through an irreversible process change.

The matrix is divided into 13 categories representing the range of activities and conditions that influence rule effectiveness. The 13 categories are:

- Training of Plant Operators
- Inspector Training
- Educational Opportunities for Source
- Procedures for Operation and Maintenance of Control and/or Process Equipment
- Clarity of Testing Procedures and Schedules
- Rule Effectiveness Evaluation Program
- Monitoring
- Type of Inspection
- Administrative Authority-Prison
- Administrative Authority-Fines
- Administrative Authority-Citations
- Media Publication of Enforcement Action
- Follow-up Inspections

The matrix includes subcategories for six of these categories. Control measures, which are the most specific item in the matrix, are arranged in descending order, with the first measure having the most significant impact on RE.

Table 4 lists the specific sources and source categories targeted for enhanced rule compliance, the 1990 baseyear VOC inventory (for which an RE of 80 percent was assumed), the emission reduction in tons per day expected from enhancing rule compliance and a brief explanation of the approach to be used and how this approach relates to the EPA RE elements described above. All RE improvements will be conducted in accordance with EPA guidance (TRC 1993, EPA 1992D)

Implementation Schedule

Since 1990, MDE has obtained the authority to impose administrative penalties of up to $2,500 per day per violation and civil penalties of up to $25,000 per day per violation. MDE also has the authority to pursue criminal penalties of up to $25,000 and one year in jail for a first offense, and up to $50,000 and two years in jail for subsequent offenses.

Enhanced monitoring of sources has also increased since 1990. Several sources are telemetered and can be evaluated from the office continuously. These sources also submit quarterly compliance summaries.

The Department has also held workshops for regulated sources on new regulatory requirements.

By 1996, many Title V permits will include the requirement that equipment operators follow and sign daily operation and maintenance instructions. The permits will also include specific stack testing requirements including, approved stack testing methods as well as the required frequency of the testing.

In addition, by 1996, there will be in place increased inspector training and frequency of inspections, as well as, mandatory follow-up of violations within 30 days.