
STRATOSPHERIC OZONE PROTECTION IN THE UNITED STATES COMPLIANCE AND ENFORCEMENT ISSUES OF TITLE VI OF THE CLEAN AIR ACT

RASNIC, JOHN B.¹ and HAAS, CRAIG R.²

¹ Director, Stationary Source Compliance Division, U.S. Environmental Protection Agency

² Environmental Scientist, Stationary Source Compliance Division, U.S. Environmental Protection Agency
401 M Street, SW (630-6W), Washington, DC 20460 USA

SUMMARY

A general overview is given of the United States' efforts to comply with the Montreal Protocol in the framework of the U.S. Clean Air Act. More in—depth analysis is given of compliance and enforcement issues associated with various programs. Successes and difficulties are highlighted and final conclusions are drawn.

1 INTRODUCTION

The United States is committed to the goals of stratospheric ozone protection and to full implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer. The obligations of the Protocol were formalized domestically with the United States Clean Air Act Amendments of 1990, which were signed into law on November 15, 1990. Title VI of the Amendments, Stratospheric Ozone Protection, introduced far-reaching legislation regarding the production, importation, and use of ozone-depleting chemicals (ODC), and established other requirements regarding products that are made with ODCs and their chemical substitutes. In conjunction with this legislation, the United States Environmental Protection Agency (EPA) has promulgated regulations and implemented numerous compliance and enforcement programs. This paper discusses some of the major issues of those programs, including obstacles encountered in their development and the solutions we have found. This paper also serves to provide an update to the overview of the United States' implementation of the Montreal Protocol which was given at the first International Conference on Environmental Enforcement.

2 MAJOR PROVISIONS

The following is a list of the major sections of Title VI and a brief explanation of their purposes:

- Phase-Out of Production and Consumption of Class I Substances, Section 604
Section 604 mandates by statute a phase-out schedule of the production of class I substances. Class I substances are chlorofluorocarbons (CFC), halons, carbon tetrachloride and methyl chloroform. The phase-out also establishes January 1, 2002, as the production termination date for methyl chloroform and January 1, 2000, as the termination date for all other class I substances. In addition, the phase-out requires EPA to promulgate regulations regarding the consumption of class I substances.
- Accelerated Schedule, Section 606
Section 606 gives EPA the authority to accelerate the phase-out schedule established by section 604 based on a scientific assessment that such an

acceleration is necessary to protect human health and the environment and that suitable substitutes are available.

- National Recycling and Emission Reduction Program, Section 608

Section 608 makes it unlawful to intentionally release into the atmosphere ODCs used as refrigerants in appliances when servicing or disposing of the appliances. It also requires EPA to promulgate regulations that reduce the use and emission of ODCs to the lowest achievable level and that maximize their recapture and recycling. Finally, it requires regulations regarding the safe disposal of appliances that contain ODCs.

- Servicing of Motor Vehicle Air Conditioners, Section 609

Section 609 establishes requirements for the servicing of motor vehicle air conditioners (MVAC). Examples of these requirements include the use of approved refrigerant recycling equipment and the certification of technicians that perform the service. Section 609 also restricts the sale of cans of refrigerant that contain less than 20 pounds to only certified technicians.

- Nonessential Products Containing Chlorofluorocarbons, Section 610

Section 610 identifies by statute certain products which contain class I or class II substances and which are deemed to be nonessential. Class II substances are all hydrochlorofluorocarbons (HCFC). It also requires EPA to identify other products that are nonessential and to ban those products from sale or distribution.

- Labeling, Section 611

Section 611 requires warning labels to be placed on containers of class I or class II substances and on products which contain or are manufactured with these substances.

- Significant New Alternatives Policy Program, Section 612

Section 612 requires EPA to evaluate alternatives to class I and class II substances and to rule on their acceptability. In the case that EPA rules that an alternative is unacceptable, the Agency must prohibit its use.

3 COMPLIANCE AND ENFORCEMENT ISSUES

3.1 Phase-out of production and consumption of Class I substances

The regulations implementing section 604 establish an allowance system for the production or importation of class I chemicals. Producers and importers must hold allowances in order to produce or import class I substances. The number of allowances available in any given year is determined by the production ceiling imposed by the Montreal Protocol, and allowances are apportioned among producers according to their level of production during 1989, the base-line year.

EPA's compliance program is composed of two principal parts: the monitoring of production and the monitoring of importation. Producers are required by the regulations to submit quarterly reports of their level of production, and EPA must then determine whether they have produced within their allowances. In monitoring imports, EPA relies upon data that the United States Customs Service provides on a monthly basis. These data are a summary of all imports into the United States of products that fall under certain commodity codes.

EPA has found that compliance has been good among the producers of class I substances. This can be attributed to several facts. First, the number of affected facilities is small, making compliance monitoring easy. Second, the producers are large, sophisticated chemical companies, all of whom participated in the legislative and regulatory development process. They were therefore aware of, and familiar with, the regulation from the day it became effective. Third, stratospheric ozone

depletion is a very well-known environmental issue. The general public is, on the whole, aware of the problem and also of the cause. Public pressure has been an important factor in the policies of these facilities, some of which have voluntarily gone beyond the requirements of the phase-out as a result of public concerns.

Conversely, compliance has been poorer among importers, for much the same reasons that it has been good among producers. The number of importers is huge compared to the producers. Education has been a difficult task, and the Agency still finds some companies that are unaware of the regulations, in spite of intense efforts to educate in a variety of forums. In addition, imports of some products which contain class I substances are also subject to the import restrictions, not just imports of the substances themselves. This can lead to confusion as to what is actually subject to the regulations.

In enforcement, EPA has not yet identified any violations among the producers themselves. However, EPA has filed eleven cases against importers and settled eight of them, for total penalties of \$463,000. All of these cases have been addressed through the administrative penalty process which allows EPA to file the cases with Administrative Law Judges, rather than with the Department of Justice. The advantage in this is that it allows the Agency to expedite the process. The entire case, from start to finish, can be handled in-house, rather than involving another branch of the government.

3.2 National recycling and emission reduction program

The recycling regulation establishes far-reaching requirements on the individuals who service air conditioning and refrigeration appliances. It also effects the owners of those appliances. At the heart of the regulation is the prohibition against the knowing release of a class I or class II substance during the servicing or disposal of appliances. This venting prohibition, which was mandated by the Clean Air Act, took effect on July 1, 1992, even though the implementing regulations were still almost a year away. The regulation itself imposes a requirement that technicians servicing appliances be certified by an EPA-approved organization; mandates that required servicing practices be followed; requires the use of certified recovery and recycling equipment to minimize the loss of class I and class II refrigerants to the atmosphere; requires that leaks in appliances be repaired; and restricts the sale of refrigerant to certified technicians.

It is premature to assess compliance rates in this program. The regulations are relatively new, dating from May 1993, and not all of the requirements have yet taken effect. Monitoring compliance is difficult because of the diverse nature of the regulated community. The recycling regulation affects all air conditioning and refrigeration appliances, except for MVACs, regardless of their size. EPA estimates that there are more than two hundred seventy million appliances regulated, requiring at least twenty-two million service or disposal jobs per year. In addition, this sector of industry is new to being regulated. Given the nature of the industry and the newness of the regulations, EPA has initially focused on education and outreach efforts in order to ensure compliance. However, the Agency does recognize the importance of establishing a traditional enforcement presence and is planning on developing an inspection program coupled with enforcement actions to address violations. Anecdotal evidence suggests that compliance rates are not yet as high as the Agency would eventually like. However, EPA expects that compliance will improve over time as more businesses become aware of the requirements.

EPA to date has filed seven cases against violators, all to address violations of the venting prohibition, either during service or disposal of appliances. A significant problem encountered in these cases has been the difficulty in establishing the violation. The venting prohibition applies only to the knowing release of a class I or class II substance used as a refrigerant during service and disposal of appliances. Hence, EPA had to establish that a release had in fact occurred, that the release occurred during service or disposal, and that the release was knowing. Credible eyewitnesses were crucial in filing these cases. Again, these cases were filed only to address violations of the venting prohibition. Now that the regulations are becoming effective, EPA expects to shift its focus from

violations of the venting prohibition to violations of the regulatory requirements (e.g., the certification requirements), which will be easier to establish.

EPA has received some criticism for its enforcement of the recycling regulation, more so than for the other programs. The reasons for this are two-fold. First, the industry seems to have had unrealistically high expectations concerning EPA's enforcement presence in the field. As the regulations neared completion, a common question from the public or the press was, "How many hundreds of inspectors will EPA be hiring?" Second, the industry expected enforcement numbers to be much higher than they are. The fact that not all violations have resulted in enforcement action has led some to the conclusion that there has been no enforcement at all. Again, these expectations can be attributed to the fact that this industry is new to being regulated.

3.3 Servicing of motor vehicle air conditioners

The MVAC regulation is similar to the recycling regulation in that it governs the servicing of air conditioners, but in this case it is restricted only to MVACs. The large size of the industry (approximately one hundred twenty million MVACs in service) is, in part, offset by its homogeneity. MVACs do not differ nearly as much as the appliances regulated by section 608. Like the recycling regulation, the MVAC regulation establishes a technician certification program, mandates the use of certified recycling equipment, and imposes a sales restriction on the sale of small cans (less than twenty pounds) of refrigerant suitable for use in MVACs.

Compliance monitoring has been straightforward for this regulation. EPA has a team of inspectors in the field and has to date performed more than three thousand inspections. Again, the fact that the regulated community is fairly homogeneous has greatly eased the burden of performing inspections. Compliance has also been very good. EPA has found compliance rates of greater than 90 percent. A significant reason why compliance is so good in this area is that the regulations were based in part on an already-existing voluntary program which had been established by the industry several years earlier. EPA therefore found the job of educating the regulated community to be much easier. Industry trade associations had already become well-established and had done a great deal of education.

The majority of enforcement cases in the MVAC regulation has been brought against individuals who sold small cans of refrigerant to purchasers who were not certified technicians. As of August 1993, EPA had filed eighteen cases against violators of the small can sales restriction. Most of these cases were filed as a group and generated a great deal of publicity. As a result, the industry became much more aware of the requirement, and compliance rates increased greatly.

3.4 Nonessential products containing chlorofluorocarbons

Section 610 bans the sale or distribution, or offer for sale or distribution of certain products that release class I substances into the environment and that are nonessential. The Clean Air Act identified plastic party streamers, noise horns, and CFC-containing cleaning fluids for noncommercial electronic and photographic equipment as nonessential. EPA also identified plastic flexible or packaging foam products and aerosol products or other pressurized dispensers as being nonessential (certain exemptions are given in the regulation).

Compliance with the product ban is very good, the main reason being that the majority of products potentially affected by the ban no longer contain class I substances. The Clean Air Act was signed into law in November 1990, while the products it identified as nonessential were not banned until February 1993. Manufacturers were therefore given more than two years to find alternatives to class I substances. In the case of those products subsequently identified by EPA, most manufacturers had already switched to alternatives by the time the regulation was published in January 1993, and those products were banned only in January 1994.

With respect to enforcement actions, EPA has filed only one case against a violator for offering for sale and selling noise horns. Enforcement in this program is straightforward, as the nature of the violation is unambiguous.

3.5 Labeling

Section 611 requires warning labels on containers containing class I or class II substances and on products containing or manufactured with class I substances when those containers or products are introduced into interstate commerce. The language of the label is mandated by the Clean Air Act and the placement and other requirements are established by the regulation. This warning label may not be removed from a product except by its ultimate consumer. However, the concept of "product" in this regulation is complicated by the fact that some products may be incorporated into other products during manufacture, and the second manufacturer is, in this case, an ultimate consumer. For example, a computer manufacturer might purchase chips manufactured with class I substances from a supplier, and incorporate those chips into a computer. The computer manufacturer becomes the ultimate consumer of the chips, and may remove the warning label from the chips. The computer manufacturer is then not required to label the computers unless he uses a class I substance himself when manufacturing the computer.

EPA does not have figures on compliance rates for the labeling regulation. There is no routine inspection program in place, although the Agency has performed inspections to address potential violations on an as-needed basis. Compliance determinations should be simple in the case of products or containers which contain class I substances in that it should be possible to chemically analyze the product or container in question to determine the presence of the substance. The case of products manufactured with a class I substance is more complicated. Class I substances are volatile, and there will rarely if ever be any residue left in the product. Chemical analysis is therefore not possible. Compliance determinations will then rest upon documents affirming or denying the use of a class I substance in manufacture. The greatest potential area for noncompliance seems to be in the area of imports. Products or containers which are manufactured outside of the United States must bear warning labels when they enter the United States, but determining whether a product was manufactured with a class I substance may be difficult. The United States has no inspection authority beyond its borders; hence, in some cases, it may not be possible to make a compliance determination for imported products.

3.6 Significant new alternatives policy program

The significant new alternatives program (SNAP) is the newest of the Title VI regulations. It requires manufacturers of ODC substitutes to submit data concerning the applications of the substitute, physical and chemical information, toxicity data, etc. The Agency will then review the data and rule on the acceptability of the substitute for the application in question. If approval for a substitute is denied, the regulation specifically prohibits its use and subjects the user to enforcement action.

The SNAP regulation was promulgated in February 1994. Like the recycling regulation, the industry that it affects is quite large. Ozone-depleting chemicals are heavily used in such areas as the electronics industry and health care and as users move out of ODC use, all substitutes will be subject to SNAP. Unlike the recycling regulation, the SNAP regulation bears an additional complication in that it regulates the use of a chemical, not its manufacture. The Agency will have to develop a compliance and enforcement program that can find and prove that chemicals are being improperly used. Traditionally, EPA has regulated the manufacture of chemicals. Focusing on use may introduce some as yet unforeseen complications.

4 CONCLUSIONS

As may have become evident from the previous discussion, EPA has relied on industry awareness and education to promote compliance. In the case of the recycling regulation, the lack of awareness has greatly contributed to problems with compliance, and also to frustration on the part of industry over a perceived lack of enforcement. In contrast, the MVAC regulation has seen very good compliance, due in large part to the work of trade associations and the fact that a voluntary program had been in place for several years before the regulations became effective. The industries regulated by the product ban and labeling also had several years between the time the Clean Air Act was signed into law and the effective dates of the regulations. This leads to the, perhaps unremarkable, conclusion that compliance works best when industry is made fully aware of the regulations and is given sufficient lead time to become educated and to adjust to the new requirements. The Agency has, in some cases, relied on education in order to make up for a lack of resources for traditional enforcement actions. To that end, it is important to note that education is not a substitute for traditional enforcement, but is a proven method of achieving compliance in its own right.