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Part II

Environmental Protection Agency

40 CFR Part 82

Protection of Stratospheric Ozone; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 82

[FRL-4158-2]

Protection of Stratospheric Ozone

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: With this action, EPA promulgates stratospheric ozone protection regulations (40 CFR part 82) required under title VI of the Clean Air Act Amendments of 1990, Public Law 101-549. Today's action promulgates regulations implementing the 1992 and later requirements of section 604, as well as the related provisions of sections 603, 607 and 616, in a manner consistent with the United States' continuing obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer as revised.

Through this action, EPA (1) Apportions baseline allowances to produce or import ozone depleting substances to companies that produced or imported certain ozone depleting substances in the baseline years; (2) allocates decreasing amounts of those allowances to the companies according to the phaseout schedule prescribed by section 604; (3) applies an 18-month cap from July 1, 1991, to December 31, 1992, on production and consumption as required under the Protocol; (4) permits transfers of allowances provided the transferor's remaining allowances are reduced by the amount it transferred plus one percent of the amount transferred; (5) permits production in excess of the amount authorized by the original allocation of allowances in order to supply developing countries that are operating under Article 5 of the Protocol, so long as producers provide adequate assurances that the production supplied to the developing country will not be reexported; (6) permits transfers of allowable production with other Protocol Parties under certain conditions; (7) changes procedures to facilitate the transformation of carbon tetrachloride without requiring extensive trading of allowances; (8) imposes minimal reporting and recordkeeping requirements, including those needed to include several newly regulated chemicals in the phaseout programs, as well as recordkeeping and reporting requirements by companies that transform carbon tetrachloride; and (9) requires that companies that produced controlled substances as by-products and did not destroy them with maximum available control technology (MACT) in 1989 but did not report their production in response to the section 114 information request in the November 26, 1990 **Federal Register** supply EPA with this information within 45 days of the publication of this document.

EFFECTIVE DATE: January 1, 1992.

ADDRESSES: Materials relevant to this rulemaking are contained in Air Docket No. A-91-50. The docket is located at U.S. Environmental Protection Agency (LE-131), 401 M Street, SW., Washington, DC 20460 in room M-1500, First Floor Waterside Mall and is open from 8:30 a.m. until noon and from 1:30 p.m. until 3:30 p.m. Monday through Friday. A reasonable fee may be charged by EPA for copying docket materials.

FOR FURTHER INFORMATION CONTACT: Martha Dye, Stratospheric Ozone Protection Branch, Global Change Division, Office of Atmospheric and Indoor Air Programs, Office of Air and Radiation, 6202J, 401 M Street, SW., Washington, DC 20460, (202) 233-9093.

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Background

A. Overview of the Ozone Depletion Problem

Stratospheric ozone shields the earth's surface from dangerous ultraviolet (UV–B) radiation. In response to growing scientific evidence, a national and international consensus has developed that certain human-made halocarbons deplete stratospheric ozone. To the extent depletion occurs, it is believed that penetration of UV–B radiation will increase, resulting in potential health and environmental harm including increased incidence of certain skin cancers and cataracts, suppression of the immune system, damage to crops and aquatic organisms, increased formation of ground-level ozone, and increased weathering of outdoor plastics.

Different chlorine- and bromine-containing substances vary in their potential to deplete stratospheric ozone. The fully halogenated chlorofluorocarbons (CFCs), halons, and carbon tetrachloride, for example, are such stable molecules that they reach the stratosphere largely intact and only there are degraded by high energy solar radiation. The chlorine or bromine from these chemicals is then released in forms (or chemical precursors of forms) which are extremely effective in depleting ozone. In contrast, methyl chloroform has a substantially shorter atmospheric lifetime but is used in such large quantities that it too contributes significantly to total atmospheric chlorine levels. Hydrochlorofluorocarbons (HCFCs) also have relatively short atmospheric lifetimes and are only beginning to be introduced as substitutes for fully halogenated CFCs. Future use of HCFCs must be carefully evaluated on the basis of both their potential volumes and their atmospheric lifetimes. The relative ability of a substance to contribute to ozone depletion is its "ozone depletion potential."

B. Scientific Evidence of Ozone Depletion

The initial hypothesis linking CFCs and depletion of the stratospheric ozone layer was published in 1974. A paper by research scientists Molina and Rowland suggested that industrial halocarbons could react in the stratosphere and destroy stratospheric ozone.

Between 1974 and 1987, the scientific community made remarkable advances in understanding atmospheric processes affecting stratospheric ozone. In response to this growing threat, the international community negotiated the Montreal Protocol, which limited the production and consumption of a narrow set of ozone depleting substances.

Significant ozone loss was first reported over Antarctica in 1985. In 1987, an international team of scientists collected and analyzed evidence linking the Antarctic ozone hole to ozone depleting chemicals. This report also suggested that some depletion of global ozone levels had already occurred (Ozone Trends Panel Report: Executive Summary, 1988). In response, the Parties to the Protocol agreed to accelerate the assessment process required under Article 6 of the Protocol. The results of the initial Protocol assessment were issued in 1989 and further heightened concern that chlorine- and bromine-containing substances had already led to a greater depletion of stratospheric ozone than had been expected.

This scientific assessment resulted in a call to strengthen national and international controls on ozone depleting chemicals. Adjustments adopted by the Parties to the Protocol in June of 1990 and Amendments to the Clean Air Act signed into law in November 1990 require a full phaseout of the most significant ozone depleting chemicals by the turn of the century.

The process of scientific review has continued since the 1989 Protocol assessments. In April 1991 the Executive Summary of the second assessment report was issued. This report stated that ozone depletion has occurred in the summertime over northern mid-latitudes. This new information will be examined in the context of possible further amendments to the Protocol in 1992 and in reference to a petition for a faster phaseout of controlled substances that EPA received under section 606 of the Clean Air Act on December 3, 1991 from the Natural Resources Defense Council, Friends of the Earth and the Environmental Defense Fund.

C. Past Efforts to Control Ozone Depleting Substances

1. Vienna Convention and 1987 Montreal Protocol

Recognizing the global nature of this issue, EPA participated in negotiations organized by the United Nations Environment Programme (UNEP) to develop an international agreement to protect the ozone layer. These negotiations successfully concluded with the signing of the Vienna Convention in 1985 and the signing of the original Montreal Protocol in 1987. Currently, 81 nations representing over 90 percent of the world's consumption of CFCs and halons are Parties to the Protocol (*see* appendix C to subpart A of 40 CFR part 82).

The 1987 Protocol required nations who join to restrict their production and consumption (defined as production plus imports minus exports of bulk chemicals) of CFC–11, CFC–12, CFC–113, CFC–114, and CFC–115 and halons 1211, 1301 and 2402. It did not regulate specific uses or emissions of these "controlled substances," but limited their production and importation instead. It also did not place limits on each of the substances, but instead grouped the substances (i.e., the CFCs listed above were placed in Group I and the halons were placed in Group II), and placed separate limits on the total ozone depletion potential (ODP) of each group. The Protocol thus allowed a nation to change the mix of controlled substances within each group that it produced and consumed, so long as the total ODP of the mix did not exceed the specified limits. The phrase "calculated level" was used to refer to this weighting of controlled substances based on their relative ODP.

As originally drafted, the Protocol called for annual production and consumption of the five most ozone depleting CFCs (i.e., Group I substances) and halons (i.e., Group II substances) to be frozen at 1986 levels beginning July 1, 1989 and January 1, 1992, respectively, and for CFCs to be reduced to 50 percent of 1986 levels by 1998. It also allowed for limited increases in production beyond the caps described above for the purposes of supplying

developing country Parties that are operating under Article 5 of the Protocol or trading allowable levels of production ("industrial rationalization") between Parties. In addition, the Protocol provided that after January 1, 1993 only exports to Parties would be subtracted from a Party's consumption, and it banned imports of controlled substances from nations which neither join nor comply with the Protocol.

2. 1988 Final Rule

a. *Overview.* EPA promulgated regulations implementing the requirements of the 1987 Protocol through a system of tradeable allowances. The Agency ensured compliance with the Protocol by creating production and consumption allowances equal to the quantity of production and consumption allowed under the Protocol. The Protocol's separate treatment of Group I and Group II controlled substances was reflected in separate allowances for each group of substances. Similarly, the Protocol's application of limits to the ODP of the groups of controlled substances ("calculated level") was carried over into the definition of allowances. Thus, allowances were specified in terms of a calculated level of a particular group of controlled substances, so that holders of allowances could select any mix of controlled substances within each group, provided that the total calculated level of the mix did not exceed the calculated levels of the allowances held.

b. *Baseline allowances.* EPA apportioned allowances to producers and importers of controlled substances based on their 1986 levels of production and imports. It then allocated percentages of the allowances according to the reduction schedule specified in the Protocol. For example, for the control periods during which CFC production and consumption were to be frozen at 1986 levels, EPA allocated 100 percent of baseline allowances.

c. *Interrelationship of Consumption and Production Allowances.* To reflect the interrelationship of the production and consumption limits, the Agency provided that a producer needed both production and consumption allowances to produce these chemicals (since production counted against both production and consumption limits), while importers needed only consumption allowances to import (since imports counted only against consumption).

To illustrate, a company that intended to manufacture a controlled substance had to have sufficient production allowances for the group of controlled substances to which the particular substance belongs in order to cover its level of production. Furthermore, since production is also included in the calculation of consumption, that company must also have had at least the same number of consumption allowances in order to produce the same controlled substances. For example, prior to producing one kilogram of CFC-12, a company must have had both a one-kilogram production allowance for Group I substances and a one-kilogram consumption allowance for the same group of substances. In producing that one kilogram, the company expended both the production allowance and consumption allowance.

A company could import controlled substances with consumption allowances alone, since imports were included in the definition of consumption but not of production. Like the producer, however, the importer had to hold prior to importing sufficient consumption allowances specific to the group of controlled substances to which the substance being imported belongs. Once the import occurred, the consumption allowances needed to cover the import were expended.

Exporters of controlled substances were not required to obtain allowances in order to export. Through the export of a controlled substance, a company decreased the volume of controlled substance available for consumption in the United States. Consequently, if certain conditions were met, an exporter could obtain additional consumption allowances from EPA after the controlled substances had been exported to a Party to the Montreal Protocol (see Additional Allowances). To obtain additional allowances, the company had to verify to the EPA that the export had occurred. EPA then granted additional allowances equal to the calculated level of the export.

The following specific examples further illustrate the interrelationships between these allowances:

1. A producer had 20 kilograms of Group I (CFCs) production allowances and 15 kilograms of Group I consumption allowances. Since both production allowances and consumption allowances were needed to produce, a producer could make only 15 kilograms of Group I substances, expending the 15 of its 20 production allowances and all of its 15 consumption allowances in the process. However, if the producer then exported 5 kilograms of Group I substances to a Party nation, it could receive 5 additional Group I consumption allowances from EPA upon proof of export. With the additional 5 Group I consumption allowances, the company could produce 5 more kilograms of Group I substances, expending its remaining 5 Group I production allowances and the 5 additional consumption allowances.

2. An importer had Group I consumption allowances equal to 20 kilograms. The importer imported 20 kilograms of Group I substances using the 20 kilograms of consumption allowances, and then repackaged 10 kilograms for re-export. Once these 10 kilograms had been exported, the importer could report the export to EPA and request additional allowances. Upon proof of export the company would receive 10 additional Group I consumption allowances.

Under EPA's 1988 rule, once any allowance was used to produce or import a controlled substance, that allowance was "expended" and could not be used again. In addition, allowances were only valid for the control period for which they were issued. Consistent with the twelve-month control requirements contained in the Protocol, allowances could never be carried over to the next control period.

d. *Additional allowances.* EPA's final rule also provided for granting additional allowances under certain circumstances. Exporters could receive additional consumption allowances for controlled substances exported to any nation before January 1, 1993 or to any other Protocol Party beginning January 1, 1993. Producers could receive additional production allowances for exporting controlled substances to developing country Parties to the Protocol or upon the transfer of production rights from another Party to the Protocol. In accordance with the regulations, allowances could also be obtained through trading.

e. *Reporting requirements.* To monitor industry's compliance with the production and consumption limits, EPA also required that producers and importers maintain records of their activities and report their production and import levels every quarter.

Since the original rule was promulgated in 1988, minor revisions have been issued on February 9, 1989 (54 FR 6376), April 3, 1989 (54 FR 13502), July 5, 1989 (54 FR 28062), July 12, 1989 (54 FR 29337), February 13, 1990 (55 FR 5005), June 15, 1990 (55 FR 24490) and June 22, 1990 (55 FR 25812).

3. 1990 Revision of Montreal Protocol

As noted earlier, the Protocol's 1989 scientific assessment confirmed that stratospheric ozone was being depleted more quickly than originally believed. In response to the assessment, the Parties

decided at their June 1990 meeting in London to completely phaseout by January 1, 2000, the CFCs and halons already subject to the Protocol's control requirements and carbon tetrachloride and the "other" fully halogenated CFCs not originally regulated by the Protocol. They also agreed to phaseout methyl chloroform by 2005. In addition, the Parties decided to shift from July-through-June control periods to calendar-year control periods, beginning with the 1993 control period. They provided for an 18-month transitional control period from July 1, 1991, to December 31, 1992, during which Parties would be obligated to limit their production and consumption of the already regulated CFCs and halons to 150 percent of baseline levels.

The changes in reduction requirements applicable to the already regulated CFCs and halons were made as "adjustments" to the Protocol and so became binding on the Parties six months after the receipt of formal notification under the terms of the Protocol. The 1990 adjustments accordingly took effect on March 7, 1991. The addition of carbon tetrachloride, methyl chloroform and the other CFCs was adopted as an "amendment" to the Protocol, which will take effect 90 days after 20 Protocol Parties ratify the Amendments. Under the Protocol, amendments bind only the Parties that ratify them. The U.S. has ratified the amendments. As a result, a nation that is a Party for purposes of the originally regulated CFCs and halons would not be a Party for purposes of carbon tetrachloride, methyl chloroform and the other CFCs until it has ratified the Amendments.

To encourage all nations to ratify or at least comply with the Protocol and the London Amendments, the Parties also adopted additional trade sanctions against nations that fail to join or comply with all or part of the Protocol. Article 4 originally required that Parties ban imports of controlled substances from non-Parties. Amendments to Article 4 require that Parties also ban exports of controlled substances to non-Parties and defines non-Parties for purposes of Article 4 as including, with respect to a particular controlled substance, a nation that has not agreed to be bound by the control measures in effect for that substance. Under amended Article 4, a nation that is a Party only for the original controlled substances will not be able to import the newly regulated controlled substances from other Parties or export the newly regulated controlled substances to other Parties beginning January 1, 1993.

The issue of what Parties are operating under Article 5 of the Protocol was addressed by the Parties, as well. Article 5 permits any developing country whose consumption of the original controlled substances is less than 0.3 kilograms per capita when it joins the Protocol to delay its compliance with the Protocol's control measures by ten years. The Parties originally delayed designating Article 5 nations on the basis that many countries had not submitted data showing that they were under the 0.3 kilogram cap. At their meeting in Nairobi in June, 1991, however, the Parties agreed on a list of Article 5 countries.

4. The Clean Air Act Amendments of 1990

Shortly after the Protocol Parties' London meeting, the United States Congress passed the Clean Air Act Amendments of 1990. The restrictions on production and consumption of ozone depleting substances found in title VI of the Clean Air Act are similar to those in the London Amendments, although interim targets are more stringent and the phaseout of methyl chloroform occurs earlier.

The Amendments to the Act also require EPA to promulgate regulations to ensure the "lowest achievable levels" of emissions in all use sectors, to ban nonessential products, to approve the use of safe substitutes only, and to mandate warning labels. Today's notice promulgates limits on production and consumption and is one of several regulations that will implement the Amendments' title VI provisions.

5. Temporary Final Rule

On March 6, 1991 (56 FR 9518), EPA published temporary regulations to implement the 1991 limits on the production and consumption of ozone depleting chemicals required by section 604 of the Act. The regulations took effect on January 1, 1991, and were to remain in effect only during 1991. Today's regulations pertain to all control periods beginning with the 1992 calendar year.

The temporary final rule revised EPA's regulations implementing the Montreal Protocol as needed to implement the 1991 production and consumption limits under section 604 in a manner consistent with the United States' obligations under the Protocol.

II. Statutory Authority

Title VI of the Clean Air Act as amended in 1990 provides for the phaseout of ozone depleting substances through provisions contained in several sections. Section 602 directs EPA to issue within 60 days after enactment of the 1990 Amendments two lists of ozone depleting chemicals. One list is to include the chemicals already regulated under the Protocol and EPA's regulations (i.e., the five CFCs and three halons), as well as the chemicals to be regulated under the revised Protocol (i.e., all other fully halogenated CFCs, carbon tetrachloride and methyl chloroform) and their isomers (except 1,1,2-trichloroethane, an isomer of methyl chloroform). The chemicals on that list are collectively called "class I" substances. The second list is to include all the HCFCs and their isomers; these chemicals are referred to as "class II" substances. For each of the chemicals listed, EPA must also assign an ozone depletion potential, a chlorine or bromine loading potential, an atmospheric lifetime and, within one year after enactment, a global warming potential (the relative ability of a controlled substance to contribute to global warming). EPA published the required initial listing notice, including ODPs, on January 22, 1991 (56 FR 2420).

Section 603 directs EPA to amend its regulations to implement new requirements regarding monitoring and reporting of class I and class II substances. Included in this section are requirements for industry reports on production, import, and export levels of class I and class II substances and periodic EPA reports to Congress on specified industry activities, atmospheric conditions, and the status of substitute technology.

Section 604(a) makes it unlawful for any person to produce any class I substance in an annual quantity greater than the specified percentages of the quantity of the substance produced by that person in the baseline year. (Section 601(2) defines baseline year as 1986 for the already regulated chemicals and 1989 for the newly regulated chemicals.) The provision is self effectuating. The first control period in the reduction schedule began on January 1, 1991, and ran through the end of 1991. Section 604(a) requires in the first control period a freeze on carbon tetrachloride and methyl chloroform at 1989 production levels and a 15 percent reduction for all remaining class I substances.

Section 604(c) calls for EPA to promulgate within ten months after enactment regulations to implement the production controls described above and to "insure" that United States consumption of the class I chemicals is reduced on the same schedule as production. Section 601(b) defines consumption as production plus imports

minus exports to nations which are Parties to the Montreal Protocol.

Section 607 requires EPA to promulgate within ten months after enactment rules "providing for issuance of allowances" for production and consumption of class I and II substances and governing the transfer of such allowances. The transfer rules are to require that each trade result in less overall production or consumption than would have occurred absent the trade.

Section 604(e) authorizes EPA to permit, after notice and opportunity for comment, production in excess of the limits for export to, and use in, developing countries that are operating under Article 5 of the Protocol. Like the Protocol, section 604(e) provides that such excess production must be solely for the purpose of supplying the basic domestic needs of such countries.

Section 616 requires EPA to promulgate, within two years after enactment, regulations authorizing trades of allowable production with other Parties to the Protocol. The regulations are to require, among other things, that trades do not result in more production than would have otherwise occurred.

Finally, section 614(b) addresses the relationship between the statute and the Protocol, stating that "in the case of conflict between any provision of this title and any provision of the Montreal Protocol, the more stringent provision shall govern." It also provides that the title "shall not be construed, interpreted, or applied to abrogate the responsibilities or obligations of the United States to implement fully the provisions of the Montreal Protocol."

III. September 30, 1991 Proposal

In a **Federal Register** notice published on September 30, 1991, the Agency published proposed regulations for the implementation of the phaseout of ozone depleting substances as required by title VI of the Clean Air Act for 1992 and later. The notice included the proposed implementation of the requirements of section 604 of the Act as well as of the related provisions of sections 603, 607, and 616 in a manner consistent with the United States' continuing obligations under the Montreal Protocol. A detailed description of those provisions, the issues they raise, and EPA's proposed implementation of them may be found in the NPRM at 45 FR 49548.

Among the more significant issues addressed in the proposal was the reduction schedule for production and consumption of ozone depleting substances. The Act sets forth a phaseout schedule for the regulated chemicals. For 1992, production and consumption of CFCs and halons are limited to 80 percent of baseline levels, methyl chloroform is frozen at baseline levels and carbon tetrachloride is reduced to 90 percent of baseline levels. The limits on the production and consumption of ozone depleting chemicals are gradually reduced until 2000 (2002 for methyl chloroform), when the chemicals are to be phased out.

An additional cap on production and consumption to ensure compliance with the Protocol's somewhat different requirements was also proposed. As explained above, the temporary final rule shifted the control period to coincide with the calendar year, as required by the 1990 Amendments to the Clean Air Act. EPA proposed to safeguard against non-compliance with the Protocol's 150 percent cap for July 1991 through December 1992 by prohibiting any company from exceeding more than 150 percent of its baseline production and consumption of Group I (CFCs) substances from July 1, 1991 through December 31, 1992, except to the extent the company has received allowances authorizing additional production or consumption through intercompany trading, exports to Parties, and transfers of allowable production from other Parties. This prohibition is in addition to the prohibition against any person exceeding the allowances allocated to that person for the calendar-year control period established pursuant to section 604(a) of the Clean Air Act.

In the NPRM, EPA also proposed revisions to the trading provisions of the stratospheric ozone protection regulations as required under title VI. Section 607 of the Act requires that any trade between chemicals or companies result in less overall production or consumption than would have occurred absent the trade. In the notice the Agency proposed to permit transfers of allowances provided the transferor's remaining allowances are reduced by the amount it transferred plus one percent of the amount transferred. A one-percent offset was proposed as an amount large enough to provide a net environmental benefit without discouraging trading necessary to meet market demands.

Exports to Article 5 Parties were also addressed by the proposed regulations. Section 604 of the Act permits production in excess of the amount otherwise allowed in order to supply the basic domestic needs of developing countries that are operating under Article 5 of the Protocol. In the NPRM, the Agency proposed to implement this provision by requiring that producers provide adequate assurances that the production supplied to a developing country will not be re-exported.

The Agency also proposed to permit increases or decreases in production through transfers of allowable production with other Protocol Parties under certain conditions. Section 616 authorizes EPA to issue regulations providing for trades of allowable production with other Protocol Parties. If EPA approves a trade to another Party, it must revise the "production limits for the United States" such that the revised limits are the lesser of (a) the maximum production that the country is allowed under the Protocol minus the amount transferred, (b) the maximum production that is allowed under the country's applicable domestic law minus the amount transferred or (c) the average of the country's actual national production level for the three years prior to the transfer minus the production allowances transferred. In the case of a transfer to the United States, it was proposed that the principal diplomatic representative in the transferring country's embassy attest that the transferring country has revised its production limits in a similar manner.

In the NPRM, a change to the approach to granting additional allowances for transforming ozone depleting substances was proposed for carbon tetrachloride. Since over 81 percent of the carbon tetrachloride produced in this country is used to produce CFCs, the original system of approving additional allowances only after a chemical has been transformed is less workable for carbon tetrachloride. The proposed scheme provided allowances "up-front" prior to transformation, thus avoiding an unnecessarily burdensome stop-start production cycle.

IV. Summary of Changes to Proposed Rule

A. Definitions

1. Importer

The Agency proposed the following definition of "importer:" "the importer of record listed on U.S. Customs Service Form 7501 or 7512 for imported controlled substances." This definition is identical to that used in the past in 40 CFR part 82 (53 FR 30566), with the addition of the words "or 7512."

Comments received on the definition of importer stated that the importer of record should not be the party required to possess consumption allowances. These commenters were concerned that shipping agents and customs brokers who routinely put up Customs bonds for other companies are often listed as the

importer of record, and therefore would be held responsible for the import of controlled substances in which they have no economic interest. The commenters maintained that the existing regulations are in this way unfair and virtually impossible for brokers to comply with. As a result, they suggested that the definition of importer for purposes of compliance during the control period be the same as that used for purposes of granting baseline allowances, or "the first United States owner who is a supplier to or a member of the domestic industry that uses the controlled substances."

The Agency previously considered using this definition for enforcement purposes and rejected it (see 53 FR 18803 and 53 FR 30583). The Agency agrees that limiting the definition of importer to the importer of record could cause brokers to be held liable for imports of controlled substances although they were not granted baseline consumption allowances. However, as discussed in previous rulemakings (e.g., 53 FR 18803 and 53 FR 30583), the Agency must choose a definition that will make compliance monitoring administratively feasible. In general, requiring the importer of record to be the party that holds the consumption allowances has proved to be effective for compliance-monitoring purposes, as it allows the Agency to rely on data gathered from Customs entry summary forms to verify importer quarterly reports and to identify imports for which consumption allowances were not expended. EPA also does not believe that its definition of import puts Customs brokers or shipping agents in an impossible position. As several companies have demonstrated, one way to deal with the definition is for companies that have an economic interest in imported controlled substances and thus were granted baseline consumption allowances to ensure that they are designated as the importer of record on the entry summary form. Customs brokers and shipping agents can similarly require that the holder of allowances be designated the importer of record or that the needed allowances be transferred to them by the time the import occurs. In spite of the large volume of trade that brokers may handle, they remain responsible for the content of material that crosses the border into the United States under their bond. Clearly, many regulations ban the import of certain products or materials and brokers must be sure that the material they are importing is not prohibited. In the same way, they are responsible for ensuring that controlled substances under this subpart are not imported without the proper authorization.

One of the commenters also noted that the definition of importer is inconsistent with the definition of that term in a recent regulation promulgated by the Internal Revenue Service (IRS). The Agency, however, need not define importer in a manner consistent with IRS regulations, if, as is the case here, a different definition is more suitable to EPA's regulatory purposes.

Upon examining the definition of importer and its relation to Customs practices, the Agency determined that several different forms may be used when importing material into the United States. For example, Customs Form 3461 may be used for low value shipments in place of Form 7501. In order to guarantee that any person bringing controlled substances into the United States is subject to the import restrictions, which is and has been the objective of these restrictions, the Agency has determined that the definition of importer should read "the importer of record listed on U.S. Customs Service forms for imported controlled substances."

2. Production

a. *Exemption for immediately-destroyed by-products that are controlled substances.* The Agency proposed that carbon tetrachloride that is produced as a coincidental, unavoidable by-product (CUBP) of a manufacturing process and then immediately contained and destroyed be exempted from regulation under this subpart. This proposal was based on language in the Joint Explanatory Statement of the Committee of Conference that accompanied the Clean Air Act Amendments. The Agency requested comment on several issues relating to the definition of a (CUBP), immediate containment and destruction, and maximum available control technologies.

One commenter believed that this exemption should take the form of an alteration in the definition of production under the regulations. This company maintained that by restructuring the regulations in this manner, the inadvertent manufacture of a controlled substance immediately contained and destroyed is exempt from the definition of production rather than from the control of production.

The Agency, however, does not believe that it is appropriate to exempt CUBP production of Groups IV and V controlled substances from the definition of production. The Agency believes that it is more appropriate to include this exemption in § 82.4, Prohibitions, than under § 82.3, Definitions, because the exemption is not permanent and categorical, but rather is subject to case-by-case annual review by the Agency. CUBP production of controlled substances in Groups IV and V is therefore exempted from the production restrictions in today's regulations. This exemption is discussed in more detail below as part of the discussion of exemptions to the phaseout.

Another commenter argued that carbon tetrachloride that is used for explosion prevention in the manufacture of chlorine and subsequently destroyed should be exempted from the definition of production because it is essential for human safety.

The Agency does not believe that this use of carbon tetrachloride falls within the parameters of the CUBP exemption described in the Joint Explanatory Statement of the Committee of Conference on the 1990 Clean Air Act Amendments, because it does not involve the inadvertent manufacture of a controlled substance. Although the Protocol allows for controlled substances to be excluded from production if they are destroyed using destruction methods approved by the Parties, the Clean Air Act does not contain such an exclusion and the Joint Explanatory Statement specifically states that the Protocol's exclusion does not apply under domestic law except where the destroyed material is CUBP.

b. *Used and entirely consumed (Except for Trace Quantities).* The definition of production in the statute and in the proposed regulations excludes from production "the manufacture of a substance that is used and entirely consumed (except for trace quantities) in the manufacture of other chemicals." In the NPRM, the Agency suggested that although the parenthetical phrase "except for trace quantities" does not appear in the Montreal Protocol definition, it is implicit because it is a law of chemistry that no chemical can ever be entirely consumed in the manufacture of another chemical. Thus, EPA found that the addition of the phrase in the regulations is warranted and not incongruous with the Protocol.

The only comment the Agency received on this point agreed that the exception for trace amounts is implicit in the Montreal Protocol's exclusion from "production" for amounts "entirely used as a feedstock in the manufacture of other chemicals."

3. Transformation—Distinction Between Transformation and Destruction

In the NPRM, the Agency discussed the difference between transformation and destruction. Essentially, the proposed definition of transformation was the use and entire consumption of a chemical in a process that produces another commercially useful chemical. The proposed definition of destruction was any process that results in the "expiration" of the chemical without any commercially useful end product being produced.

One company commented that defining "transformation" as a process that produces a commercial product that is sold, or an intermediate substance that is used in further manufacture limits transformation to only those processes where a commercial product is the direct product of the transformation reaction. This company stated that such a limitation would unnecessarily restrict commercial manufacturing use of controlled substances since, in many commercial processes, a controlled substance is used and entirely consumed but is not transformed into a commercial product (e.g., use of controlled substances as reaction inhibitors, solvents, or inert direct coolants). The same company argued that the proposed definition would force some processes where controlled substance use is essential to shut down. It contended that even where substitute chemicals are available, large sums of money would be spent on process retrofits without environmental benefit.

The commenter gave as an example of a process which it believed would not meet the proposed definition of transformation a process in which (1) The reaction process results in a commercial product or intermediate substance that could not otherwise be produced without the presence of the ozone depleting chemical; (2) the ozone depleting chemical is entirely consumed in the production process via a combustion reaction that transforms the controlled substance to a non-controlled substance; (3) the combustion device is a necessary and integral part of the commercial process where the ozone depleting chemical is used; (4) there is no storage of the ozone depleting substance between the use in the production of the commercial product and the controlled substance combustion because they are both parts of the same production process; (5) these operations cannot be characterized as a Resource Conservation and Recovery Act (RCRA) waste destruction operation; and (6) the ozone depleting chemical is generally burned as part of a process to vent steam and is not a solid waste as defined by RCRA. The commenter noted that although the process described above did not result in the transformation of the ozone depleting substance into a commercial product, it does meet the strict requirement that the substance be used and entirely consumed. Furthermore, the commenter stated, there is no practical difference between processes where the controlled substance is transformed directly to a commercial product and those where the ozone depleting chemical is used to produce a commercial product and is then transformed to a noncommercial chemical.

The Agency's definition of transformation would not necessarily exclude the process described above. EPA is aware of several transformation situations in which the manufacturing process requires that the controlled substance be broken down or chemically changed, without the ozone depleting substance actually forming part of the intended commercial product. One example is the use of carbon tetrachloride as a chlorine source for rejuvenating the catalyst in certain refinery or isomerization processes. In these cases, although the gasoline or isobutane being produced does not contain the reaction products of carbon tetrachloride, the carbon tetrachloride was transformed to produce chlorine atoms which were commercially useful when they rejuvenated the catalyst. Thus, EPA's proposed definition of transformation does not require that the reaction products become part of a saleable product.

In order for a process in which the reaction products do not become part of a saleable product to satisfy the definition of transformation, the following must be true. It must be essential for the manufacturing process that the controlled substance be broken down, and it must be physically impossible to recover the ozone depleting chemical after its use and still have it serve its purpose in the process. If it is not essential for the manufacturing process that the controlled substance be broken down, the "expiration" of the controlled substance is incidental and would most likely be as the result of destruction. The controlled substance is clearly not being incorporated into a commercially useful chemical. If it is physically possible to recover the ozone depleting chemical after it has served its purpose in the process, then it is not being transformed in the process and is only expiring in a separate, destruction step. If it is essential that the material be broken down, and as a result it is not recoverable, the process probably qualifies as transformation, as long as the actual reaction that is taking place clearly results in a commercially useful intermediary as one step in the manufacturing process. If it is not essential for the manufacturing process that the controlled substance be broken down, i.e., it is recoverable after performing its function in the process, it is probably not being transformed. This would be true if the material served as a solvent in the process, even if it were fed directly into an incinerator after completing its function.

The Agency cannot allow the definition of transformation to include manufacturing processes where controlled substances are used and then moved directly into an incinerator after use. Clearly, the purpose of the incinerator is simply to destroy the material. This is true even if the incinerator is attached to a vent in order to capture and destroy volatile emissions. If the Agency were to include these processes in the definition of transformation, a company using an ozone-depletor as a solvent could simply send the waste solvent directly to an incinerator and claim it as transformation. The Protocol, however, distinguishes between transformation of controlled substances in the production of another commercial chemical and destruction. As explained above, the Agency believes the key questions for determining whether a substance has been transformed is whether the substance has undergone a change in chemical composition in order to become a commercial product or intermediary as a necessary step in a production process. The Agency is providing exemptions in this rulemaking for production of controlled substances that are by-products of manufacturing processes, and is participating in a working group established by the Parties that is exploring issues related specifically to destruction.

One company supported the definition adopted by the Agency for transformation. Two other commenters, however, maintained that the definition of "transform" refers to manufacture of other chemicals "for commercial purposes", and that the regulations should clarify that commercial purposes means for sale by producers or for use by producers that would otherwise have to purchase it.

As a general rule, the phrase "commercial purposes" would have the meaning the commenters suggest. However, in the catalyst-rejuvenation

case discussed above, the chlorine atoms that activate the catalyst could not necessarily be sold or purchased in that form, and so although the product of the transformation is commercially useful, it could not otherwise have been sold or purchased. Thus EPA has decided not to restrict "commercial purposes" (as suggested by the commenters) to sale or use in place of purchased material.

One commenter asserted that the definition of transformation should be clarified because there are situations where both transformation and destruction occur in the same process (i.e., transformation where the controlled substance "expires" in the manufacture of another commercial chemical, and destruction where the "expiration" of the controlled substance results in the creation of another chemical which is a waste product). They maintained that this situation meets the exclusion from the definition of "production" since the controlled substance is essential to the reaction (in very small amounts relative to the commercial chemical), but is not itself incorporated into the molecules of the commercial chemical. In assisting the reaction, the controlled substance is broken into simpler compounds that are waste products. According to this company, the chemical is thus used and entirely consumed (except for trace quantities) in the manufacture of other chemicals, and meets the definition of transformation even if the actual atoms of the controlled substance end up as waste products after assisting the reaction. This commenter suggested that EPA either clarify the definition of transformation to include this type of process or expand the definition of transformation itself.

The Agency believes that the process described by this commenter would qualify as transformation. The key point in the above description is that "in assisting the reaction, the controlled substance is broken into simpler compounds." If it is necessary for the ozone depleting chemical to be broken down in order to serve its purpose in the reactor, it is being transformed. This again differs from the situation where the ozone depleting substance serves its purpose, remains intact, and only as a separate step is destroyed.

One commenter was generally in agreement with EPA's proposed distinction between transformation and destruction, and believed that specific processes including thermal oxidizers and halogen acid furnaces should be identified as transformation.

In applying the "commercial purposes" test to these processes, the Agency concludes that halogen acid furnaces would qualify as transformation because the resulting halogen acid is used or sold and not disposed of as a waste. Thermal oxidizers, however, would not qualify because the product of the controlled substance being broken down is not another chemical, but simply energy. In no way is the controlled substance being chemically changed to become a commercially useful chemical; the substance is destroyed in order to produce heat.

In summary, a controlled substance is transformed if it is used and entirely consumed (except for trace quantities) in the manufacture of other chemicals. The "other chemicals" manufactured must be commercially useful. This includes uses in manufacturing processes and is not limited to commercial sale. Processes where the atoms that make up the controlled substance are rearranged to form only a waste product are destruction processes, not transformation.

B. Baseline Allowances

1. Class II Baseline

The Agency proposed to reserve the baselines for class II chemicals, because under § 605 the phaseout of those chemicals does not begin until 2015, and it will take some time for the market to determine what representative production levels for these substances would be. This proposal was supported by commenters.

2. Selection of Baseline Year and Baseline Allowances for Chemicals Added Later

In the NPRM, the Agency requested suggestions regarding the appropriate method for determining the baseline year and allowances for new chemicals to be added to the class I list of ozone depleting substances. The allocation of such allowances is subject to the provisions of sections 604 and 607 of the Clean Air Act.

One company responded with a suggestion on how to calculate the baseline allowances for CHF_2Br (Halon 1201, or bromodifluoromethane), a chemical that EPA intends to add to the list of ozone depleting substances and a potential substitute for Halons 1211 and 1301. The suggested approach for this particular substance will be discussed in the proposal to list Halon 1201 as a class I chemical and allocate baseline production and consumption levels for this chemical.

Since no other comments were received on the method for determining the baseline year and allowances, the Agency will continue to evaluate each substance on a case-by-case basis in order to determine a representative baseline year.

3. Method of Calculation of Baseline Allowances

EPA proposed baseline allowances for the Class I substances based on each company's production and consumption of each of the substances in the baseline year. Information on baseline-year activities was gathered under two information requests. The first request, dated December 14, 1987 (52 FR 47486), collected information on the amount of Group I and II controlled substances that firms had produced, imported or exported in 1986. More recently, the same information was requested for Groups III through V (other CFCs, carbon tetrachloride, and methyl chloroform) on November 26, 1990 (55 FR 49116). The Agency calculated a company's baseline production of a controlled substance by subtracting from the amount manufactured the amount of that company's product that was transformed or used as a feedstock in the baseline year. Consumption was calculated in a similar fashion, adding imports to the calculated production and subtracting baseline-year exports attributed to the company. A correction factor was applied to all baseline calculations to account for exported and transformed material that could not be attributed to a particular producer or importer.

Two companies commented that after the regulations are adopted, companies should be given an opportunity to challenge the baseline allowances and verify correct computation. In addition, these corporations believed that problems were created by the 1991 temporary final regulations because EPA collected information before defining key terms. These companies maintained that EPA should consider re-examining data in light of new definitions and reviewing data in cases in which definitions have changed. Another commenter also maintained that EPA may need to examine the process used to set baseline allowances for carbon tetrachloride, especially if it changes the method of applying production and consumption limits for that chemical.

The Agency has already given an opportunity for companies to challenge the baseline allowances by including them in the NPRM, and a lengthy description of the calculation method was provided to all involved. Although issues such as destruction versus transformation have required

clarification in this rulemaking, the Agency has recalculated the allowances to account for the changes in the definitions. The Agency received the additional information that was needed to make the changes since the publication of the proposal. The only issue concerning which the Agency may need additional information is that of controlled substances produced as by-products. As discussed below, the Agency is requesting the necessary information.

Comments from two companies mentioned that baseline allowances should reflect the percentage of a company's baseline-year production that will not be exported or transformed. These companies asserted that with the proposed EPA system, inventories can make baseline numbers artificially low or high. One company offered an alternative approach that would rely on emissive uses to set baseline allowances for heavily transformed substances.

EPA recognizes that the effect of subtracting 1989 exports and transformations from 1989 production and imports is not the same as calculating the actual amount of 1989 production and imports that were not and will not be exported or transformed. The Agency submits that it would be impossible to trace each molecule of 1989 controlled substances to ascertain its ultimate use or destination when there had been no requirement at that time to track the fate of the compound. In addition, it is possible that some amounts of controlled substances produced in 1989 will yet be transformed or exported at some future date. Again, it is not possible for EPA to determine the fate of all 1989 production. As a result, 1989 transformation and exports were used as a reasonable approximation.

The emissive uses approach would necessitate a supplementary survey of users that would cause a significant delay in the implementation of the provisions of the Act. Furthermore, the suggested method would depart from the Clean Air Act requirements by changing its most basic definitions, whereas the current method's assumptions are consistent with those definitions while making certain mathematical approximations in order to render its requirements achievable. EPA notes, moreover, that the Agency has calculated allowances in this manner beginning with the original phaseout regulations in 1988, and has reported U.S. baseline-year levels to the Protocol Secretariat using these calculations.

One company maintained that because of business cycles and economic factors, the same amount of carbon tetrachloride is not produced and used every year. As a result, the assumption that current-year transformations equal the amount of current-year production eventually transformed does not hold true. This company presented an example of two companies that produced the same amount of carbon tetrachloride in the baseline year, with the same amount eventually exported and transformed but a different amount sold to emissive uses. The example showed that inventories distort the numbers to create identical baselines for the two companies.

Another example mentioned by the same company shows how a producer that did not sell to emissive users in 1989 could receive baseline allowances, unlike another producer that did sell to emissive users. This situation could occur if the first company's sales for non-emissive uses were not transformed until 1990, and the second company had a high level of inventory at the end of 1988 that was sold or exported in 1989. The commenter stated that the results, as shown by these examples, are unfair and inconsistent with the goal of the Clean Air Act to eliminate emissive uses of ozone depleting substances.

These examples show that inventory can indeed affect the calculation of the baseline. However, as discussed above, it would be administratively burdensome and in many cases impossible to actually trace the fate of 1989 production. The new method of tracking carbon tetrachloride transformation as discussed below should remove any compliance difficulties that producers of this controlled substance for feedstock experienced during calendar year 1991 arising from idiosyncrasies of the carbon tetrachloride market in 1989.

One company commented that the Clean Air Act does not require EPA to use the proposed baseline calculation method, and that this method is inconsistent with the Act's definition of production. The company pointed out that the definition excludes only the amount transformed from the amount produced, as opposed to excluding the transformation of controlled substances that may have been produced in the previous year.

As noted earlier, the Agency has concluded that only the amount of each chemical transformed in the baseline year can be accurately ascertained and that calculating baseline allowances on this basis is consistent with the definition of production. As stated above, it would not be possible to trace later transformation of 1989-produced controlled substances. A simplifying assumption was necessarily made that the amount of previous-year production transformed in 1989 would be similar to the amount of 1989 production transformed in 1990. Although the Agency recognizes that business may fluctuate from year to year, the proposed approach is readily calculated and consistent with the relevant definitions.

One company remarked that EPA has changed allowance allocations from 1991 without stating so in the preamble, or explaining why the change was made. This company believed that the regulations should clarify that the allocations do not apply to 1991.

In the preamble to the NPRM, EPA discussed the calculations that caused a change in the baseline allowances between March 6, 1991 and this rulemaking. Some changes were made because of new information on companies' activities in the baseline year. Another change resulted from the distribution of two companies' negative Group IV consumption allowances over the rest of the companies receiving consumption allowances for carbon tetrachloride. These companies' baseline-year consumption was negative because the amount of carbon tetrachloride produced by them that was exported and transformed during 1989 was greater than the amount of carbon tetrachloride that they produced and imported during 1989. The resulting changes of the baseline allowances are not effective for 1991, as stated in the section of today's rule on Effective Date.

Another commenter maintained that re-allocation of the negative consumption is not needed in order to satisfy the Clean Air Act, which the commenter asserted sets limits on a per-person basis depending on the person's baseline-year production and consumption. Therefore, the company asserted that the allocation of the negative amounts should be deferred until Montreal Protocol provisions for carbon tetrachloride go into effect in 1995.

In response, the Agency notes that section 604(c) requires EPA "to promulgate regulations to insure that the consumption of class I substances in the United States is phased out" on the same schedule as is applicable to the production of class I substances (emphasis added). While section 604(a) defines production limits in terms of a percentage of a company's baseline-year production, section 604(c) requires EPA to define consumption limits that will insure that United States' consumption as a whole is subject to the same percentage reduction. Section 607 provides that allowances be granted in a

manner consistent with the applicable reductions prescribed by section 604. Thus, consumption allowances must be allocated in such a way that the total number of allowances granted equals total allowable U.S. consumption. For the aggregate number of consumption allowances to reflect U.S. consumption in the baseline year, the "negative" consumption accrued by some companies in the baseline year must be taken into account in this rulemaking.

Another comment explained one situation where a customer sought allowances for transformations, and EPA ruled the customer's process to be destruction. If this company were treated as a transformer in computing the 1989 baseline allowances, other companies' allocations would be too low. This commenter maintained that there is no check on EPA since the information upon which the allowances are based is not made available to the public.

The Agency is familiar with the case to which the commenter refers, and responds that in any case for which a company's designation may have changed, the baseline allowances have been adjusted accordingly. Many of the companies submitting baseline information filed claims of confidentiality, and, as such, the Agency cannot at this time make the information available to the public. EPA believes, however, that producers of controlled substances that wish to check the information submitted by their customers could do so by contacting those companies. EPA has provided companies with detailed spreadsheets describing exactly how their allowance allocations were affected by second-party reports.

One suggestion was made that EPA should resurvey customers after it issues final regulations in order to rectify potential problems. This company believed that a resurvey would not be a major impediment because it needs to be done in any event to make sure the feedstock numbers are correct.

EPA has examined the information collected on transformation and believes that the data set is consistent with the definitions set forth in this rulemaking. In addition, the comment period allowed companies the opportunity to submit additional data for EPA to revise their baseline numbers if they found them to be inaccurate in the proposed rule. Since the additional information resulting from refined definitions was submitted after the proposed rule was published, baseline numbers have changed slightly from those published in the proposed rule. The Agency does not anticipate that these changes will cause affected firms any difficulty in complying with today's regulations.

C. Implementation of Exemptions to the Phaseout

1. Exemption for Immediately-Destroyed By-Products That Are Controlled Substances

a. The exemption. EPA proposed that carbon tetrachloride that is a coincidental, unavoidable by-product (CUBP) of a manufacturing process that is immediately contained and destroyed by the producer using maximum available control technology be exempted from the limits on production of controlled substances. This exemption was based on statements made in the Joint Explanatory Statement of the Committee of Conference of the 1990 Clean Air Act Amendments, indicating that EPA should grant such exemptions on a case-by-case basis. The proposal stated that requests for such an exemption would be considered on a case-by-case basis, and if the exemption were not granted, the Agency would grant the requesting company baseline allowances (subject to the phaseout) based on the company's production of the chemical as a by-product in 1989.

One company supported EPA's observation in the NPRM that it would be unworkable to control companies that coincidentally produce and then destroy carbon tetrachloride through the proposed allowance system. Another company commented that EPA should exempt destroyed coincidentally-produced carbon tetrachloride and not provide allowances to its producers since the allowance system would not work in the long term because all of this production would then have to be phased out. This company contended that providing allowances could lead to the shutdown of facilities producing non-controlled substances.

In response to this comment, the Agency clarifies that it would only allot baseline allowances to by-product producers in situations where it could not grant an exemption. This would occur in cases where the chemical was produced intentionally, where as a by-product it was not destroyed with an appropriate destruction technique, or if the Protocol restrictions on carbon tetrachloride took effect before approved destruction techniques were defined. EPA notes that in such cases, having baseline allowances that are being phased down would stimulate the producer to arrange for the transformation of the chemical, or seek out an approved method of destroying the chemical, thus preventing damage to the ozone layer caused by its release. To ensure that all destruction technologies are considered by the Parties for approval, the Agency is actively participating in a UNEP working group on destruction technologies.

If companies eligible for this exemption have previously reported carbon tetrachloride by-product generation as production for the determination of their baseline, they should include that information with their request for the exemption. If the exemption is granted, their baseline will be reduced accordingly.

Another company suggested an amendment to the recordkeeping requirements in § 82.13(l) as follows: (1) If the Administrator's designated representative finds, based on the submitted information, that the carbon tetrachloride for which the exemption from the definition of "produced" is sought is an unavoidable, coincidental by-product of the production of another chemical and that MACT will be used to destroy it, he or she will exempt this manufacture from the definition of "produced."

The Agency does not agree that the exemption should take the form of an exclusion from the definition of production, because such a categorical exclusion from production would be inconsistent with the Joint Explanatory Statement of the Committee of Conference which is the basis for providing the exemption. The Agency believes that in light of the Joint Explanatory Statement it is more appropriate to exempt companies from the production limits on a case-by-case basis.

b. *First come, first served policy and interplay with the Montreal Protocol.* The proposal included the provision that exemptions for carbon tetrachloride that is CUBP be granted only up to the level of the U.S. production limit for carbon tetrachloride under the Montreal Protocol. The definition of production under the Montreal Protocol includes an exemption for material that has been destroyed by technologies approved by the Parties, but as of this writing no technologies have been so approved. As a result, there is a cap on the total amount of exemptions that could be given, set by the difference between the Protocol limits and total U.S. production and consumption. EPA proposed that the exemptions be granted on a first come, first served basis.

A number of companies pointed out that control of carbon tetrachloride under the Montreal Protocol does not begin until 1995, and thus there is no Protocol cap on the amount of

exemptions that can be granted until 1995. The Agency agrees and will grant unlimited exemptions until 1995. In 1995, if destruction techniques are not yet approved by the Parties, EPA will be unable to grant any further exemptions.

Another commenter stated that EPA should allow for the exclusion subsequent to 1995 since the Montreal Protocol includes an exclusion for destroyed controlled substances and the Clean Air Act conference report allows for such exclusion. Moreover, this company maintained that exclusion is appropriate because destroyed ozone depleting substances do not damage the ozone layer.

EPA cannot grant exemptions from Protocol limits, and thus from Clean Air Act limits, that are not sanctioned by the Montreal Protocol. The Clean Air Act Amendments specifically state that in situations where the Act and the Protocol are in conflict, the more stringent of the two should govern. Although the Montreal Protocol does allow for exemptions for destroyed controlled substances, it only allows them to the extent that the destruction technology has been approved by the Parties. To date, no technologies have been approved. Again, the Agency is working to assist the Parties in determining acceptable destruction technologies. The Agency notes that the exclusion for destroyed CUBPs discussed in the Joint Explanatory Statement of the Committee of Conference is more limited than the potential exclusion for destruction allowed under the Protocol. Therefore, even for control period prior to 1995, the Agency is permitting only a narrow exemption for destroyed CUBPs.

One company believed that EPA should re-open the matter for public comment well in advance of 1995 because exclusions will not be permitted starting in 1995, possibly forcing expensive alterations of production processes and costs not factored into the Regulatory Impact Analysis (RIA) before that date. Another commenter maintained that if an exemption for destruction is not allowed, companies that coincidentally produce and then destroy carbon tetrachloride would be forced eventually to alter their production processes at great cost and without measurable benefit to the environment.

EPA agrees that this could be an undesirable outcome if the Parties do agree on approved destruction technologies before 1995. The Agency anticipates that these technologies will be defined by that date.

One commenter stated that Congress and EPA did not mean to restructure the chemical industry (i.e., preclude the manufacture of non-controlled substances that create carbon tetrachloride as a coincidental by-product) when they approved the phaseout. The Agency recognizes the importance of the exclusion provision and intends to grant exemptions for inadvertent production to the greatest extent allowed by the statute and the international treaty.

The Agency is educating the Parties on this subject and will explore whether the Montreal Protocol should be amended to deal with this issue.

c. *Definition of maximum available control technology.* The Agency requested comment in the NPRM on how to define "maximum available control technology" (MACT), as used in the Clean Air Act Conference Report to describe the appropriate destruction technique for the purposes of granting a CUBP exemption. EPA suggested that for carbon tetrachloride, current RCRA requirements for the incineration of carbon tetrachloride as a hazardous waste would be an appropriate definition of MACT. Regulations under RCRA require in most cases that carbon tetrachloride be treated as a hazardous waste. The typical treatment method would be combustion in an incinerator, boiler or industrial furnace that has a 99.99 percent destruction or removal efficiency rating (40 CFR 264.343(a), 40 CFR 266.104).

One commenter stated that defining MACT on the basis of RCRA requirements is appropriate, but that EPA should consider expanding the definition to allow the use of a vent incinerator with 98 percent efficiency for several years, because it is the best technology reasonably available in certain process operations.

Although the use of a vent incinerator with 98 percent destruction efficiency may be allowable under other EPA regulations when carbon tetrachloride is not classified as a hazardous waste, the Agency believes that it is not sufficient for obtaining a CUBP exemption under the stratospheric ozone protection program. Congress in its Joint Explanatory Statement specified that maximum available control technology be used to destroy CUBP, and RCRA-permitted combustion devices with 99.99 percent efficiency are available. Requiring the maximum, as opposed to the reasonably, available control technologies also fits with the goal of the EPA stratospheric ozone protection regulations and title VI, which is to minimize emissions of ozone depleting substances that lead to atmospheric harm.

One company asserted that the MACT definition should be made to include any destruction technologies approved by the Parties of the Montreal Protocol. Another company stated that the definition of MACT should be consistent with the standards that will be established pursuant to section 112 of the Act, but that the definition should focus on specific compounds rather than on categories of sources. This commenter also stated that although RCRA standards for incineration of carbon tetrachloride would probably prevail, the Agency should allow for the consideration of other techniques that are equally or more efficient and cost effective.

The Agency agrees that destruction techniques that are as efficient as the RCRA combustion requirements for carbon tetrachloride should also qualify for the exemption. To the extent that any emissions standards under section 112 of the Clean Air Act require the use of technologies that have a destruction efficiency equal to or greater than 99.99 percent, EPA will consider them to be sufficient for the granting of the exemption for carbon tetrachloride produced as a by-product. When the Parties to the Protocol complete their analysis of destruction techniques, EPA will evaluate these to determine if they reflect MACT. As noted previously, the Clean Air Act exemption for destroyed controlled substances is narrower than the Protocol's potential exemption, and thus it does not necessarily follow that destruction techniques approved by the Parties will meet the MACT criterion for the destruction exemption under the Act.

Another company agrees that incineration with an efficiency of 99.99 percent should qualify as MACT for the destruction of carbon tetrachloride, but that a more inclusive definition including alternative technologies should be considered. This commenter stated that EPA should establish procedures to allow for the demonstration of treatment and destruction techniques with removal efficiencies that are equivalent to an incinerator permitted under RCRA.

EPA will consider each exemption request on a case-by-case basis, allowing for the possibility of other efficient destruction procedures with 99.99 percent efficiency in addition to combustion. For alternative destruction technologies, however, the requester must provide adequate documentation for the Agency to be able to make a determination that the destruction efficiency of the technique is at least 99.99 percent.

d. *Criteria for determining if controlled substances are unavoidable, coincidental by-products.* Two commenters suggested definitions of a coincidental, unavoidable by-product (CUBP), stating that a product is a CUBP if it is unintentionally manufactured in the course of manufacturing another product. One example provided was that carbon tetrachloride would be a CUBP of a production process if the amount of carbon tetrachloride produced could not be varied independently of the intended product (i.e., the quantity of a CUBP manufactured varies proportionately with the production of the intended product, and ceases when the intended product's production is stopped). Similarly, these companies asserted that if carbon tetrachloride is not manufactured for commercial purposes (i.e., sale or use in place of carbon tetrachloride that otherwise would be purchased), then it is a CUBP.

The Agency believes that requiring both the commercial test and the dependent-variable test is appropriate for determining if a substance is a coincidental, unavoidable by-product.

One company observed that identifying individual chemical processes that result in the CUBP of carbon tetrachloride would not be practical. Another company stated that a number of chlorination processes could result in the coincidental generation of small amounts of carbon tetrachloride that, under the proposed regulatory scheme, would be prohibited. As an example, this company noted that the chlorination of a municipality's drinking water supply could result in the formation of many organic chemicals such as carbon tetrachloride or other controlled substances.

The Agency does not have sufficient information to identify at this time all the chemical processes that result in the production of controlled substances as by-products. To the extent they are numerous, the Agency is concerned about their contribution to ozone depletion and believes that until more is known, this type of production should be subject to phaseout requirements unless the CUBP substances are destroyed by appropriate destruction techniques, in which case an exemption could be granted. In any case, companies that produced controlled substances as by-products and did not destroy them with MACT in 1989 should have reported their production in response to the section 114 information request in the November 26, 1990 **Federal Register**. Those companies that did not must supply EPA with this information within 45 days of the publication of this notice. Baseline production and consumption allowances will then be calculated for them by EPA. As producers of controlled substances, companies in this situation are subject to the phaseout provisions until such time as they begin providing for the destruction or transformation of their carbon tetrachloride production in accordance with the regulations promulgated today.

The Agency recognizes that very small quantities of carbon tetrachloride may be formed in water treatment plants if a municipality has chlorinated its water, but it does not believe that carbon tetrachloride so formed is covered by the definition of production. Chlorination does not involve "production" of a controlled substance even as a coincidental unavoidable by-product of a manufacturing process, since chlorination is not typically considered manufacturing. A specific exemption from the regulations is thus not necessary for the chlorination of water.

One commenter acknowledged that EPA correctly recognized that carbon tetrachloride can be a CUBP in the production of methylene chloride and methyl chloroform. In addition, this company wrote that carbon tetrachloride can be a CUBP in the high temperature, catalytic trimerization of cyanogen chloride to cyanuric chloride, which is a feedstock for numerous valuable chemicals.

Although the Agency has not developed an exhaustive list of chemical processes that create controlled substances as by-products, all of the above-mentioned processes would qualify for the exemption if they meet the commercial test and the dependent-variable test laid out in the definition of a CUBP.

e. *Interpretation of "immediately contained and destroyed by the producer"*—(i) *Immediately contained and destroyed.* EPA proposed that the phrase "immediately contained and destroyed" as used in the Joint Explanatory Statement be defined to allow for a 90-day storage period before destruction is required. This requirement would be similar to RCRA restrictions on the storage of hazardous waste prior to destruction.

Two commenters mentioned that the 90-day period is reasonable, but stated that where there is a shortage of incineration capacity a longer period should be allowed if the material is stored in RCRA-permitted tanks. These companies maintained that this exception may be necessary to make best use of MACT without over-building incinerators. This is particularly true of the period from 1995 to 1997 when MACT for eliminating CUBP carbon tetrachloride may not yet be widely available, but production allowances are reduced to 15 percent of the baseline. Moreover, one company asserted that the 90-day period should refer to the time that the carbon tetrachloride may remain at the producer's site before it must be shipped off-site for destruction (assuming that it is not destroyed on-site); and that at the destruction site it may be stored as long as necessary in accordance with RCRA. This company maintained that the 90-day period should refer to the time allowed until destruction or shipment to a destruction facility, and that the producer should not be held responsible for delays in off-site incinerator destruction.

Another company discussed an example of CUBP carbon tetrachloride that was not listed as hazardous waste and thus would not be subject to RCRA requirements for storage/destruction. The commenter stated that the Agency should allow at least 15 months for the material's eventual destruction and not limit the storage period to 90 days.

The Agency is concerned primarily that the controlled substance not be released to the atmosphere. This concern is largely alleviated if the CUBP is contained immediately after it was produced or left the reactor. As long as the material is contained, the actual time of destruction is less crucial. Indeed, the Joint Explanatory Statement arguably reflects such an approach, as "immediately" clearly modifies "contained" but does not necessarily modify "destroyed."

The Agency will thus grant a CUBP exemption if a company can show that it can adequately contain the chemical and that it has made definite provisions for its destruction. Although under these regulations there is no specific time period during which the destruction must take place, companies will of course still be subject to the RCRA limits to the extent that the material is a hazardous waste (e.g., 90 days for a non-RCRA-permitted generator or 180 days for a small quantity generator) and must provide documentation that they are in compliance with the relevant statute(s) (RCRA, Clean Air Act, Clean Water Act) when applying for the exemption, by providing EPA with copies of permits, manifests, exemptions, or other official documents.

One company stated that the term "immediately contained" should refer to the capture and containment of carbon

tetrachloride after it is removed from the process in which it is inadvertently generated. This company maintained that although in general the 90-day period would be appropriate, for continuous, closed-loop processes, this criterion is meaningless. The company suggested that in these instances, the continuous purge of the closed-loop process should also be considered immediately contained and destroyed.

The Agency agrees that such a process would be eligible for a CUBP exemption if the material is completely contained at all times, and the destruction device removes the chemical with at least 99.99 percent efficiency. This treatment of closed-loop processes is consistent with the definition of solid waste under RCRA (40 CFR part 261), which exempts materials reprocessed in closed-loop systems.

One company maintained that an adequate time must be allotted for the storage and destruction of the coincidentally produced by-product. This company stated that if a 90-day time limit were imposed, it should not begin to elapse until a reasonable quantity (e.g., 1,000 lbs) had been collected and packaged for safe transport to the destruction facility. The small quantity of carbon tetrachloride produced daily may not be enough for economical destruction. This company suggested that the time limit would commence after 1,000 pounds had been collected.

Again, insofar as the company is operating in compliance with applicable statutes (e.g., CAA, RCRA, CWA), containment is complete, and an appropriate destruction strategy is planned, these regulations allow the storage of approved CUBP material until an adequate quantity has been accumulated for destruction. Companies should include in their request for exemption a description of their handling of the CUBP an estimation of the amount accumulated and the period of time for which it is stored.

(ii) *Destruction by the producer: On-site versus off-site.* In the proposal, the Agency also discussed the meaning of "immediately contained and destroyed by the producer" from the standpoint of where the destruction must occur. EPA suggested that small generators of carbon tetrachloride might currently ship their waste off-site and requested comment on whether the phrase could be interpreted to permit both off-site and on-site destruction.

Several commenters maintained that EPA should permit off-site destruction or contracting with another firm for destruction because in some cases adequate incineration capacity is not available on-site, and it would be unfair to require that each producer have an incinerator. These comments also stated that if transport and destruction of carbon tetrachloride are conducted in a manner consistent with RCRA, it should be sufficient for title VI as well, and that EPA should clarify that "destroyed by the producer" is not being interpreted restrictively. One company noted that there may be many small generators who require incineration off-site. Another company agreed that off-site incineration should be allowed in light of the difficulty of burning or incinerating halogenated hydrocarbons and the difficulty of constructing new incinerators. This company maintained that as long as the release of carbon tetrachloride is controlled and the material is destroyed by a technology meeting the level of destruction efficiency identified in the applicable RCRA regulation, it should not matter whether such destruction occurs on-site or off-site.

The Agency has determined that there would be no measurable environmental benefit to restricting the exemption to on-site destruction by the producer itself. Furthermore, the Joint Explanatory Statement does not necessarily require that the producer destroy the chemical itself, but only that it be responsible for its destruction. Since carbon tetrachloride emissions and treatment are already tracked under RCRA, allowing the material to be destroyed off-site does not entail a loss of accountability. EPA has determined that if the manufacturer can show that it has made provisions for sufficiently efficient destruction of the carbon tetrachloride (off-site, on-site, or through a contractor) it will be eligible for the exemption.

One commenter stated that since the carbon tetrachloride is produced as a result of a chemical manufacturing operation, EPA should require that it be destroyed on-site and under strictly controlled conditions. This company contended that to send the carbon tetrachloride off-site, considering that it has no commercial value, would constitute an unnecessary exposure to the general public of its harmful properties

EPA currently regulates carbon tetrachloride waste generation, transport, and treatment under RCRA. The regulations under this statute give standards for each handler of the carbon tetrachloride and require that safeguards be taken in order to avoid unnecessary exposure to the general public. In the absence of any claims that these precautions are inadequate to protect the public welfare, the Agency finds that it would be inappropriate to make any further restrictions in this rulemaking. Thus by-product carbon tetrachloride produced and destroyed on-site or off-site is eligible for consideration for an exemption.

f. *Extension of the exemption.* In the NPRM, the Agency requested comment on what other controlled substances should be considered for exemptions in addition to carbon tetrachloride.

One company suggested that the destroyed-CUBP exemption be allowed for methyl chloroform as well. It was estimated that three percent of the 1987 methyl chloroform production was destroyed by incineration, and that as the availability of control equipment increases, methyl chloroform incineration will also increase.

Since methyl chloroform is currently produced as a CUBP in several production processes and is frequently destroyed, the Agency is allowing an exemption for coincidentally produced, incinerated methyl chloroform as well. The same destruction techniques are available for methyl chloroform and carbon tetrachloride, neither of which contain fluorine or bromine that can attack the refractive materials in incinerators, and RCRA standards for destruction of methyl chloroform that is a hazardous waste are the same as those for destruction of carbon tetrachloride. All the standards discussed above for determining whether or not a particular case qualifies for an exemption will apply for methyl chloroform, as well as carbon tetrachloride.

The Agency recognizes that Montreal Protocol controls take effect for methyl chloroform in 1993, and that Clean Air Act requirements are more stringent than the Protocol controls until 1995. The Agency is not promulgating a system for distributing exemptions during these control periods at this time. If no more methyl chloroform is destroyed during the 1993 and 1994 control period than is the case now (about three percent), the gap between the Montreal Protocol limit (100 percent of the baseline) and the Clean Air Act limit (90 percent of the baseline) should be more than enough to allow all companies with qualifying processes to be exempted. If, in 1992, requests for exemptions greatly exceed expectations and total more than ten percent of production in the baseline year, EPA will propose a method for distribution of exemptions for destroyed-CUBP methyl chloroform in a separate notice. As for 1995 and beyond, the Agency believes that appropriate destruction techniques will have been defined by 1995, when

Montreal Protocol controls and Clean Air Act controls coincide. If the Parties do not define appropriate destruction techniques by 1995, however, the Agency will no longer grant exemptions at that time.

Several commenters also suggested that other controlled substances produced as by-products be exempted. Another commenter asserted that any listed compound that meets the exemption criteria should be provided the exemption. Another company wrote that the definition of coincidentally-produced material should include other compounds in addition to carbon tetrachloride because during the manufacture of halons and other halocarbons, for instance, certain CFCs may be produced in small quantities as by-products.

Since CFC and halon production is currently restricted under the Montreal Protocol, and these substances can be destroyed only with difficulty and under special circumstances, the Agency will not at this time grant exemptions for them. Although destruction techniques have been identified, destruction facilities are not widely available for these substances, due to their tendency to corrode incinerator walls, and the Agency does not believe that it is appropriate to approve exemptions for their destruction prior to the Protocol Parties' designation of approved destruction techniques. When the Parties to the Protocol complete their analysis of destruction techniques, EPA will again examine the issue of granting the exemption for all controlled substances that are incidentally produced and destroyed by the techniques approved by the Parties.

2. Exemptions for De Minimis By-Product Production of Controlled Substances in Groups I–III

One company commented that the Agency has insufficient information relating to the incidental generation of controlled substances and is focusing only on the companies producing these materials as mainstream products in its proposal to exempt incidental, destroyed carbon tetrachloride. The commenter noted that a number of chlorination processes could result in the coincidental generation of small amounts of carbon tetrachloride. These processes would be prohibited by EPA's proposed regulations (e.g. a municipality chlorinating its drinking water supply). This company maintained that this is not a reasonable position for CUBPs generated as part of manufacturing or chlorination processes and stated that the Agency should obtain information concerning the environmental impacts of halogen chemistry in order to fashion a rational program to exclude from the regulations such de minimis generation until it is shown to pose an environmental problem. The suggestion was made in this comment that the Agency should investigate the unintended impacts of its regulations beyond the ozone depleting compound producing industry.

The Agency agrees that an exemption for de minimis by-product production whether or not it is destroyed could potentially be warranted in order to efficiently implement the phaseout. However, EPA has insufficient information on the subject at this time and thus will be requesting information from the regulated community in an upcoming Federal Register notice. The Agency has determined that additional study will be necessary to determine whether de minimis generation should be exempt from the phaseout. Persons that produce controlled substances in Group I, II or III as by-products of manufacturing processes will be required to provide information on the processes and the quantities of by-products being produced. In addition, companies that have fugitive emissions of any of the class I substances will be asked to report the annual amount that is emitted from each of their plants. For those companies that have this type of manufacturing process but that did not report it as production under the November 26, 1990 information request and thus have no allowances to cover their production, the Agency requests that this data be submitted as soon as possible so that allowances may be allotted or the issue may be otherwise resolved.

A suggestion was made by one company that the Agency should allow some de minimis generation of CFCs during the production of HCFCs and HFCs, such as a one-percent de minimis level in the production stream for exclusion from the scope of the regulations. Another company commented that a by-product that is not destroyed after production, or sold as feedstock and transformed, should be subject to the production phaseout.

The Agency is considering such an exemption from the phaseout for controlled substances in Groups I, II, and III that are produced as coincidental, unavoidable by-products of a manufacturing process. However, the Agency must investigate appropriate technologies and appropriate de minimis levels and the environmental impact of de minimis production for these groups of chemicals before a final decision can be reached. Persons that possess relevant information on this subject will be asked to submit it in an upcoming Federal Register notice.

3. Other Exemptions

In the NPRM, EPA requested comment on how some of the exemptions provided for in the Clean Air Act, but not in the Montreal Protocol, could be implemented in the future. The Agency noted, however, that under the exemption provisions themselves as well as section 614(b), it could not implement these exemptions unless and until it could do so in a way that was consistent with the Protocol. Since the Protocol does not yet permit these exemptions from its requirements, the Agency may not implement them, except to the extent that the Clean Air Act's limits are more stringent than the Protocol's. In such cases, the Clean Air Act creates a margin in which exemptions could be granted without running afoul of the Protocol. Even within this "compliance margin," the Agency is not making provisions for granting the exemptions because they are not warranted at this time, given the likely availability of the controlled substances under the Clean Air Act limits in at least the near term. The Agency is particularly hesitant to grant exemptions that are not currently vital since the Parties to the Protocol have not yet made provision for such exemptions. Furthermore, The Agency believes that these exemptions will for the most part not be needed until the time that the U.S. approaches the phaseout date. A summary and analysis of the comments received on the need for and implementation of the exemptions follows.

a. *Halons.* Section 604(g)(1) allows the Administrator to grant limited exemptions from the percentage reduction requirements for certain halons for purposes of fire suppression or explosion prevention where no safe and effective substitute has been developed. Paragraph (3) of that subsection also allows a limited exemption from the phaseout for halons needed for the same purposes in association with energy production on the North Slope of Alaska.

On the issue of implementing the exemptions to the extent that differences in the stringency between the Clean Air Act and the Protocol allow, one company commented that there is no guarantee that halon demand and production will continue to remain below allowable levels. It stated that, because there is no national halon recycling or banking infrastructure and no known substitute for Halon 1301 in

situations requiring the inertion of an occupied enclosed space for explosion prevention, demand could require new halon production in amounts greater than those allowed by the interim reduction requirements.

The Agency has monitored halon production, and to date, production is well below the allowed amount. In addition, halon demand is expected to decrease over the next few years as companies adopt alternative fire protection methods or chemical substitutes and as a bank for the storage and recycling of halons is established.

Another company commented that it is inappropriate to prohibit halon production exemptions in association with domestic crude oil or natural gas production on the North Slope of Alaska because the Parties have yet to agree to any such exemptions after the phaseout year. Two companies suggested that EPA should convene a STOPAC (Stratospheric Ozone Protection Advisory Committee) subcommittee of users and manufacturers to advise EPA on how exemptions should be implemented and maintained that EPA should acknowledge that the exemptions contained in the Clean Air Act may be applicable if at some future date the Parties amend the Protocol such that both it and the Clean Air Act are consistent.

In response, the Agency notes that it is not in any way eliminating the possibility of future exemptions, but at present does not believe that they are warranted, given the likely continued availability of controlled substances under Clean Air Act limits. For this reason, EPA believes that it would be premature to convene a STOPAC meeting on exemption implementation at this time.

b. *Methyl chloroform.* Section 604(d)(1) provides for another exemption specifically for essential uses of methyl chloroform, for which no safe and effective substitute is available.

One commenter asserted that methyl chloroform is an important transitional substance because of its low ODP and believed that when it is used as a replacement for CFCs it should be considered for exemption from the phaseout.

The Agency is required to phaseout methyl chloroform according to a specified schedule under the Clean Air Act and the Montreal Protocol, and substitution for CFCs could not be construed to be an "essential use" per se. EPA concurs with another commenter's view that exemptions should be left open until the availability of methyl chloroform is far more constrained and until the Parties have agreed on whether they are appropriate and if so in what applications.

c. *Analytical and research purposes.* One commenter requested an exemption for the use of carbon tetrachloride and CFCs for analytical and research purposes. This company maintained that they are unable to purchase carbon tetrachloride due to the current production and consumption limits. This company distributes carbon tetrachloride in small packages to laboratories for chemical analytical purposes and research, uses that are considered emissive. The comment provided the following example: Carbon tetrachloride and other CFCs are necessary as standards in testing for trace levels of contamination in drinking water, and no alternative products can be used to prepare standard solutions for this application. This comment proposes an exemption of the continued manufacture and use of these chemicals for use as analytical reagents in small quantities.

The Agency believes that such exemptions are not currently necessary, given the continued availability of production and consumption allowances for the ozone depleting chemicals. Since these research and analytical uses require only small quantities of the chemical, exemptions from the phaseout should not be needed to satisfy laboratory needs at this time. Since production and consumption of carbon tetrachloride is currently limited, but has yet to be completely phased out, EPA does not believe that companies should experience difficulties in locating suppliers of small quantities of the material.

D. Basic Prohibitions

1. Compliance

The September 30, 1991 proposal included a section on basic prohibitions (§ 82.4), which stipulated that no person may produce controlled substances at any time during any control period in excess of the amount of unexpended production allowances held by that person at that time, and that no person may produce or import controlled substances at any time during any control period in excess of the amount of unexpended consumption allowances held by that person at that time. For all the controlled substances except carbon tetrachloride, these requirements are identical to those that were originally promulgated in the August 12, 1988 rule limiting the production and consumption of CFCs and halons.

Two companies commented that the final regulations should apply production and consumption limits annually, rather than daily. These companies maintained that the Clean Air Act Amendments and the Montreal Protocol both provide for annual limits, and, therefore, that EPA has no statutory authority to require that companies have allowances before they produce or import instead of having sufficient allowances at the end of the control period to cover their total production and imports for the period.

The Agency does not agree that it lacks authority to require persons to possess allowances before they may produce or import ozone-depleting substances. While § 604's limits may be enforced on an end-of-year basis only as the commenters suggest, the statute itself does not require that they be so enforced. Section 604(b) calls on EPA to issue regulations implementing the phaseout in accordance with that and other applicable sections of the statute. Section 607(a) provides for issuance of allowances, as the Agency had done in its original phaseout regulations, and section 614(b) provides that Title VI provisions are to be construed in a manner that does not abrogate the U.S. obligations under the Protocol. In its original rule, the Agency required persons to hold allowances before they produced or imported to minimize the potential for exceedances that could cause the U.S. to exceed its Protocol limits. While the Protocol's limits were (and remain) annual, EPA judged that requiring allowances to be held at the time a person produced or imported was a worthwhile precaution against U.S. noncompliance with the Protocol. Nothing in title VI or its legislative history suggests that Congress disagreed with or intended to change the Agency's approach to implementing reductions in ozone-depleting substances. Indeed, Congress' adoption of EPA's allowance system suggests its satisfaction with EPA's approach to implementing the Protocol. If Congress had meant to prohibit EPA from requiring allowances to be held "up-front," surely it would have specified such a change to EPA's program.

Two companies asserted that the proposed rule, even if within the Agency's authority, represents overregulation and reflects an unfounded distrust of controlled substance producers. They commented that a daily test constitutes excessive interference in business practices and places an enormous accounting burden on producers without benefit to EPA or the environment. One company maintained that daily accounting creates problems for ozone depleting chemical producers that sell their products for

export or transformation and expect to receive production and consumption allowances in the future as the result of such uses.

The Agency disagrees with these comments. As stated above, requiring compliance by requiring the holding of allowances prior to production and consumption is appropriate in view of the U.S. obligations under the Montreal Protocol. Moreover, neither EPA nor producers of the original controlled substances have had difficulties with this system in the past.

This compliance mechanism is also necessary for EPA to track allowances throughout the control period in order to ascertain whether trades can be carried out without endangering compliance. Since companies can trade allowances at any time during a control period, the Agency must be aware of their compliance status in order to ensure that the trade will not result in a company's expending more allowances than it holds.

In general, the commenters on this subject appeared to be concerned with recouping allowances expended in the production of controlled substances for export or transformation. To the extent that the system for the tracking of carbon tetrachloride will no longer require this cycling of allowances, as described later, EPA believes that companies should have little difficulty remaining in compliance with the regulations.

One company stated that EPA would be able to assess compliance or stop drastic non-compliance without imposing a daily test. This company suggested that the Agency use quarterly reports to assess compliance and, if a company exceeds its allowances during a given quarter, require the company to submit evidence (such as its customers' IRS Certifications) that it would be able to retrieve enough allowances by the year's end.

EPA believes that the requirement for quarterly reports as well as the requirement for companies to have allowances before they produce or import are both necessary to ensure compliance with the production and consumption limits. In addition, the suggested control system would make it impossible for the Agency to monitor trading of allowances during the course of each quarter. Consequently, the Agency is continuing to follow the system established in the 1988 regulations and is requiring that companies keep records on a daily basis and report quarterly and that companies hold adequate unexpended allowances to cover their activities.

2. Consumption Limits

The proposed regulations required that companies that import controlled substances must hold consumption allowances, and may not import controlled substances in amounts that exceed their level of unexpended consumption allowances at any time. A controlled substance is imported at such time that it enters U.S. territory, with the exception of Maquiladora transactions where controlled substances of U.S. origin are imported into Mexico in-bond and then re-imported into the U.S. The regulations apply to any bulk quantity of the listed chemicals, including recycled material or that intended for recycling.

One company commented that, from a policy perspective, it is inappropriate to require a party to use consumption allowances for the import of used controlled substances that will be recycled. According to the company, it should be apparent that any quantity of used controlled substance that is recycled will be used in place of new production, thereby reducing controlled substance production. The same company maintained that the siting of recycling facilities should not be artificially affected by the need to use consumption allowances for imports. This company stated that this issue will be important in later phases of the phaseout when it is likely that the quantity of consumption allowances will not be sufficient to allow for both production of virgin material and for import of used controlled substances for reclamation. An alternative approach suggested by this company would be to allow used controlled substances to be transported across national boundaries for the purposes of reclamation without counting them towards the recipient country's consumption limit.

The Agency first notes that there is no assurance that recycled controlled substances will be used in place of new production. Indeed, the Agency expects that as the phaseout progresses, recycled substances will be used as a supplement to new production. In any event, the Protocol requires that imports of used controlled substances be included in the calculation of consumption, because of the practical difficulty of distinguishing between used and new substances. Exempting imports of controlled substances from applicable consumption limits would create a strong incentive to mislabel new controlled substances as used. Moreover, EPA does not believe that the expenditure of consumption allowances for imports of used controlled substances for recycling constitutes a disincentive or an obstacle to recycling. The domestic use and recycling of controlled substances is not restricted under these regulations and consumption allowances are not required to recycle controlled substances. Only used or recycled material crossing international borders is affected by the availability of consumption allowances. However, if this material is then re-exported, consumption allowances expended for the imports may be recovered upon export of the material through a request for additional consumption allowances. Thus, there may be no net loss in consumption allowances. Even under the phaseout, controlled substances could still be imported as long as at least an equal amount is exported (annual consumption must equal zero). To the extent that the suggestion is that material would leave the country, be recycled, and returned (or vice versa) this should not be a problem.

E. General Stringency of Regulations and Phaseout Schedule

The Agency proposed the phaseout schedule Congress set forth in the Act. In the NPRM, EPA noted that recent scientific evidence suggested a need to accelerate the phaseout schedule. The Agency explained, however, that the tight statutory deadline to which this rulemaking is subject did not permit the Agency to consider such an acceleration within the scope of the rulemaking.

One commenter stated that the rules should be formulated to be as stringent as possible in eliminating the production of controlled substances and preventing their emission to the atmosphere, and that there are too many provisions in the proposal for companies to increase their production allowances and not enough incentives for companies to reduce the world market of ozone depleting chemicals. The commenter urgently recommended revisions to the rule to accelerate the phaseout and to broaden the list of ozone depleting chemicals.

For the reasons cited above, today's regulations implement the phaseout schedule specified by the Clean Air Act. The Agency notes, though, that the production of ozone depleting chemicals is being further decreased due to the effects of the excise tax implemented by the IRS. Currently no companies are increasing their production of ozone-depletors and significant efforts are underway to find substitutes. However, as new scientific and technology developments occur, and in response to petitions received under the Clean Air Act Section 606, EPA will reassess the schedules contained in this rule. As mentioned previously, the Agency is

currently evaluating one such petition, received on December 3, 1991.

F. Recordkeeping and Reporting Requirements

1. Daily Production Records

The proposed regulations require producers to keep dated production records. One commenter claimed that daily mass balancing is unworkable because although daily production records exist, they contain only rough measurements. This company maintained that monthly rather than daily documentation should be used for mass balancing. This is because it takes several days for material to be completely processed and only then can it be measured for the purpose of a mass balance. In addition, this company asserted that improving the daily accounting would cost hundreds of thousands of dollars per plant, and still would not be as accurate as monthly documentation.

This comment is similar to comments received in response to the NPRM implementing the Montreal Protocol in 1987. At that time EPA determined that daily recordkeeping is important and that it is common business practice to keep daily records. Based on its review of data submitted by producers, EPA believes that current methods of daily recordkeeping will be sufficient to satisfy the requirements. Daily mass balancing is not required. The Agency recognizes that daily records may consist of rough measurements and as such are generally used by inspectors, not for a direct mass balance, but primarily as a check when discrepancies in other records are found.

2. Class II Reporting

The Agency proposed that, as required by the Clean Air Act, producers, importers, and exporters of Class II chemicals report their activities to the Agency on an annual basis.

One company's comments expressed support for quarterly Class I reports and annual Class II reports. Moreover, the company believed that the Agency should maintain all reports of HCFC activity in confidence until such time as it has established baseline levels for each of the producers.

The Agency follows the procedures outlined in 40 CFR subpart 2 when companies submit information with a confidentiality claim. Unless a specific finding is made that the information is not entitled to confidential treatment, the Agency will maintain it as such until disclosure is needed to carry out a Clean Air Act provision, including section 607 which requires the establishment of baselines. Aggregate production and consumption information on the HCFCs will be submitted to the Protocol secretariat at UNEP in fulfillment of EPA's reporting requirements to that body under the Montreal Protocol once the amendments enter into force.

G. Exchanges

1. Domestic Trading—Environmental Offset

a. *Offset amount.* Section 607 of the Clean Air Act provides for trading of allowances between chemicals in the same group. It requires, however, that any trade must "result in greater total reductions in production in each year of class I and class II substances than would occur in that year in the absence of such transactions." In the NPRM, the Agency proposed an implementation strategy for this environmental offset. EPA argued that it could not predict what would have occurred in the absence of the trade, and proposed that the assumption be made that all allowances available would be used in the absence of the trade. Based on this assumption, the required offset could be calculated every time a trade occurred, by subtracting a certain percentage of the amount of the trade from the transferor's unexpended allowances. EPA proposed that this percentage be based on the level of measurement error that companies would likely build into their compliance margin and upon the level of environmental benefit resulting from the offset, and arrived at a one-percent offset, although comment was requested on offset amounts of 0.1 percent and on two percent.

A number of commenters maintained that EPA had taken a satisfactory approach to the offset requirement by presuming reasonably that companies would have used allowances being transferred if a trade did not occur. An industry group noted that the evaluation of whether allowances would have been used in the absence of trades would have been highly subjective, even in the case of plant-closings, because a company may have kept its plant open if it had known that it could not trade its allowances.

One company commented that EPA should review the impact of the one-percent offset on the ability of the producing companies to supply both the needs of the U.S. and those of its trading partners. According to this company, as the phaseout schedules take effect and less virgin material is available to service the needs of the U.S., the Agency may need to revisit its decision.

The Agency believes that a one-percent offset will not cause any shortages or difficulties in supplying the country's needs for ozone depleting chemicals. If at some future date the offset becomes a significant problem, the Agency can revisit the issue.

The same industry group commented that the analysis on the margin of error in the NPRM was not relevant to the calculation of an appropriate environmental offset. The Agency had stated that the offset amount should be related to the measurement error present in companies' production estimations. The commenter stated that the margin of error moves rather than disappears when allowances are transferred, and thus the level of the offset does not need to be related to the level of measurement error.

EPA's concern was that if the percentage selected for the environmental offset were smaller than companies' actual production measurement error, there could be no guarantee that the trades would result in lower overall production. The Agency agrees that to a large extent, the margin of error would move with a transfer of allowances, since a cushion for measurement error would have to be maintained and production would be reduced accordingly. For example, if a company had 200 production allowances (authorizing 200 kg of production), and had a production measurement error of one percent, the company would probably not plan to produce more than 198 ± 1.98 kg of controlled substances. If the company traded away 100 allowances with a one-percent offset, it would only have 99 allowances left, and would likely only produce 98 ± 0.98 kg. The receiving company would similarly produce only 99 ± 0.99 kg, so the total production would only reach 197 ± 1.97 kg; the environmental offset would have effectively reduced total production by one kilogram. At the same time, the Agency notes that permitting allowances to be traded increases the value of any compliance cushion that companies build in and thus creates an incentive to share it. Overall, however, the Agency believes that regardless of particular companies' measurement errors, a one-percent offset will be sufficient to ensure an overall production reduction as a result of allowance transfers.

The group accepted EPA's conclusion that the offset should be at least 0.1 percent in order to satisfy the statutory requirement. Another commenter also agreed that 0.1 percent is quantifiable and enforceable and commented that one percent is excessive and unnecessary. The industry group stated that a one-percent offset is more than

sufficient to satisfy statutory requirements, but that the greater the percentage, the more trading will be discouraged.

None of the commenters presented compelling evidence that a one-percent offset would be damaging to industry or to trading, however. Therefore, the Agency does not believe that a reduction of the proposed one-percent offset is warranted. EPA analysis shows that one percent is an appropriate number to ensure a measurable environmental benefit while not harming ousiness unnecessarily.

Several commenters endorsed the proposed one-percent offset factor, and believed that higher offset penalties will only discourage and hinder trading between chemicals, thereby resulting in less efficient utilization of production facilities and in increased costs to the economy.

The Agency agrees that an offset larger than one percent would be likely to discourage trading and could be harmful to small businesses. For this reason, it is adopting the proposed offset factor of one percent.

Two companies stated that although EPA explained in the preamble to the proposed regulations that a single trade between parties and chemicals should only be subject to one offset, the proposed regulations were unclear on this point. This company suggested that the language in § 82.12 be clarified to remove any doubt.

The Agency has added language to § 82.12 clarifying this point. It has also added language to specify that only trades of consumption and production allowances are subject to the offset. As discussed in the NPRM, trades of "authorizations to convert" or "potential production allowances" are not subject to the offset.

b. *Intra-company trading.* One comment stated that EPA should make it clear that the offset does not apply to intra-company transfers, citing section 607(c) of the Clean Air Act, which refers to trades between "2 or more persons."

The Agency notes that section 607(a) requires that the Agency promulgate rules for trading that "shall insure that the transactions under the authority of this section will result in greater total reductions in the production in each year of class I and class II substances than would occur in that year in the absence of such transactions." Among the transactions authorized under this section are interpollutant transfers (section 607(b)) which permit allowances for one type of controlled substance to be exchanged for another type within the same group. These are the types of trades that would occur within a company as well as between companies. Although section 607(a)'s general statement could be interpreted to allow other methods of calculating the offset than set forth in section 607(c), using two different offset systems for trades between different companies and trades within the same company would be unnecessarily complex. Since both types of trades must be subject to an offset, the Agency finds that it is most logical to use the same offset for both.

Another company commented that where a trade occurs within the same corporate organization, domestically or internationally, it should not be necessary for a company to obtain advance authorization of the trade. This company asserted that the administration of this requirement would be burdensome on EPA and industry. Moreover, since the same company is on both sides of the trade, it is fully responsible for compliance and thus there is no need for EPA to pre-approve a company's production schedule. The company maintained that quarterly reports should be adequate.

The Agency does not agree that requiring EPA notification of intra-company trades is administratively burdensome. The number of such trades will be small. For the NPRM, the Agency analyzed of the trades of chemical-specific allowances that would have been necessary in the first control period, and found that fewer than five trades would have been needed for a large ozone depleting substance producer. In addition, the Agency's past experience with the ozone depleting chemical industry indicates that production plans do not change from day to day. Thus, the number of trades during the year is not expected to be large. The Agency notes that only towards the end of the control period, when allowances are being used up, would intra-company trading activity be likely to pick up. Even then, EPA believes its experience with trades and its commitment to communicate objections to trades within three days of receipt will ensure that trades late in the control period will be processed quickly.

The same commenter stated that requiring Agency pre-approval of each shift in the mix of chemicals produced by a single company is wasteful of resources and does little to accomplish improved compliance with the Clean Air Act and the Montreal Protocol.

If U.S. treaty obligations were not at stake, EPA non-objection might not be regarded by EPA as worthwhile. As a leader in the phaseout of ozone-depleting substances and with the existence of an international agreement, however, EPA believes it must take extra care that compliance is achieved. In this context, the Agency disagrees that the requirement to notify EPA prior to intra-company trades does little to improve prospects for compliance with the Clean Air Act and the Montreal Protocol. Since companies may trade allowances at any time during the control period, the Agency must be aware at all times of the number of allowances held by each company. For example, if a company internally traded all its allowances from CFC–114 to CFC–115 and then proposed to trade CFC–115 allowances to another company, EPA would not know that the company has CFC–115 allowances to trade and would object to the trade. Likewise, if the company did not have any CFC–114 allowances left, yet proposed to trade them, the Agency would not object to the trade and the second company could produce CFC–114 without there being any actual allowances to cover the production. In this way, compliance with the Montreal Protocol and the Clean Air Act would be endangered. The Agency also notes that EPA has only three business days in which to object to a trade, and thus companies would not be hindered by a paperwork bottleneck that could hinder the implementation of production plans.

c. *Transformer trading.* One commenter maintained that the proposed rule subjecting feedstock purchasers to the "offset" requirement when allowances necessary for the purchase of feedstocks are traded is unlawful and serves no legitimate purpose. This company also stated that the non-manufacturing feedstock users would be forced to compete in the market for increasingly scarce allowances. This company noted that each time a feedstock purchaser attempted to exchange his regenerated allowances with a manufacturer in order to facilitate the purchase of additional feedstocks it would be subject to a one-percent reduction. After 20 such cycles in one control period, the purchaser's allowances would be reduced by 17 percent. If product use expands, which may occur, the effect of repetitively applied offsets combined with diminishing allowances would create a shortage of allowances and feedstock. One of the most disturbing effects, according to this company, is that new feedstock uses, such as for CFC substitutes, would never be launched. Furthermore, this company commented that feedstock purchasers would gradually suffocate from lack of supply, while feedstock manufacturers would be awash with excess feedstock material.

The Agency agrees that placing an offset on trades, the purpose of which is to replenish allowances expended in feedstock production, is not mandated by the Act. Section 607 requires that allowance trades result in lower production than otherwise would have occurred. Under current market conditions, transformers receive allowances and trade them back to feedstock producers on the basis that the chemical originally produced was used as a feedstock, and, therefore, does not count as production. In that way, allowances expended to produce substances later transformed are only temporarily expended. As such, the "trade" of these allowances is simply an allowance reimbursement.

The same commenter asserted that the offset applied to transformers is classically anti-competitive in that it requires feedstock users to compete for diminishing supplies, thus driving the market price up unnecessarily and bestowing further advantage on those who manufacture their own feedstocks. This anti-competitive and economically damaging spiral of prices is not intended or sanctioned by the legislation and is sufficient reason, standing alone, to adopt an alternative regulatory scheme, according to this company. The commenter stated that the language employed in section 607 shows that the drafters did not envision that offsets would be required for trades by non-producers. This commenter argued that since all allowances expire at the end of the control period, this language can logically only apply to those with who are allocated baseline allowances, and not purchasers who only have allowances they have acquired.

Although EPA doubts that the potentially catastrophic consequences predicted by this commenter would actually take place in the event that an offset were placed on allowance transfers from transformers to producers, it concedes that this would not be a desired result of the Act. As explained earlier, the Agency believes it appropriate not to apply the offset to transfers of production and consumption allowances from transformers to producers. The Agency however does not agree that *all* trades by non-producers should be exempt from the offset. Although section 607(c) states specifically that "the transferor of such allowances will be subject, under such rules, to an enforceable and quantifiable reduction in annual *production*," subsection (d) states that "the rules under this section shall also provide for the issuance of *consumption* allowances in accordance with the requirements of this title and for the trading of such allowances *in the same manner as is applicable under this section to the trading of production allowances*" (emphasis added). EPA interprets this language to mean that transferors of consumption allowances should be subject to a reduction in annual consumption. For this reason, the Agency is only exempting traders of allowances from the offset in cases where it is clear that the purpose of the trade is to reimburse a producing or importing company for allowances expended in the production or import of feedstock material or material that is later exported. All other trades of production and consumption allowances are subject to a one-percent offset.

2. International Trades

a. *The proposal.* Section 616 of the Clean Air Act provides that trades of production between Parties to the Protocol also be subject to specific conditions. "Consistent with the Montreal Protocol, the United States may engage in transfers with other Parties to the Protocol under the following conditions:

(1) The United States may transfer production allowances to another Party if, at the time of such transfer, the Administrator establishes revised production limits for the United States such that the aggregate national United States production permitted under the revised production limits equals the lesser of (A) The maximum production level permitted for the substance or substances concerned in the transfer year under the Protocol minus the production allowances transferred, (B) the maximum production level permitted for the substance or substances concerned in the transfer year under applicable domestic law minus the production allowances transferred, or (C) the average of the actual national production level of the substance or substances concerned for the three years prior to the transfer minus the production allowances transferred.

(2) The United States may acquire production allowances from another Party if, at the time of such transfer, the Administrator finds that the other Party has revised its domestic production limits in the same manner as provided with respect to transfers by the United States in subsection (a)."

Under section 616, then, trades of allowable production between the U.S. and a Protocol Party cannot result in an increase in production over what would have occurred in the absence of the trade. In the case of a trade to a U.S. company, the trading Party must agree to reduce its production to the extent prescribed by section 616. In the case of a U.S. company trading production to other Parties, the U.S. must likewise reduce its production.

The Agency considered various methods of reducing overall U.S. production as called for in trades from U.S. companies to companies abroad, but proposed that the only fair way of distributing the offset would be to decrease the transferor's balance of production allowances by the amount required under section 616. Thus, the formula for calculating the transferor's revised production limit would be "the lesser of. (i) The unexpended production allowances held by the person * * * minus the amount transferred; or (ii) the unexpended production allowances held by the person * * * minus the amount by which the U.S. average annual production for the three years prior to the transfer is less than the United States' production allowable under this Part minus the amount transferred."

b. *Trades from the U.S. to other Montreal Protocol parties.* One commenter stated that although the proposal for intra-company international trades would appear to be workable under today's market conditions, as the phaseout moves forward and substitutes are developed, the formula will become unworkable. This is because the three-year average would be very low due to the rapid adoption of substitutes in some end uses and to the recent economic slowdown which has led to reduced demand for ozone depleting chemicals. The commenting company provided an example of how applying the offset could lead to severely diminished supplies of controlled substances in the U.S. If the U.S. were producing and consuming controlled substances at about 50 percent of its allowable levels, and that allowable level was 80 percent of baseline levels, the commenter claimed that a company transferring ten percent of its production rights to another country would severely restrict future production (i.e., only 80 percent minus 50 percent minus ten percent of the company's limits).

The Agency acknowledges that the U.S. production of some of the controlled substances has been well below allowable levels and agrees that implementation of section 616 could result in a severe curtailment of future production if a company were to transfer away its baseline production rights under the kind of scenario described above. The Agency notes, however, that under its proposed approach to implementing section 616, a trade could only take place if the U.S.

transferor had enough allowances to permit the reduction in actual U.S. production to be reflected in the transferor's adjusted allowance balance. In short, using the example given above, the transferor would have to have allowances equal to at least 30 percent of U.S. baseline production for it to trade its allowances abroad. In this way, any resulting curtailment in production would be for the transferor to absorb and would not directly affect other companies' ability to produce. EPA also points out that if the U.S. were already operating well below its allowable production in a future control period, it would not need the full amount of allowable production during that control period and trades of allowances would not necessarily result in such severe cutbacks at least for that period. In any event, regardless of the effect on future production, the Act clearly requires these adjustments to the U.S. production limit and the need to make such adjustments should be considered by those contemplating trades.

The same commenter stated that under the Agency's proposal, no company other than itself may be able to transfer production rights because the potential shortfall in national production could easily exceed the total production allowances held by any other producer. The company suggested as trades will become increasingly necessary under the phaseout, and that it would be uneconomical and bad policy for the U.S. to undertake a program that would effectively prohibit international trades.

One company also maintained that the first company requesting a transfer to another Party would be disproportionately penalized by having to absorb the entire national difference between the allowable production quantity and the three-year average of actual annual production.

The Agency agrees that its proposal could have the effect of unfairly limiting the availability of trading and that such a result should be avoided. The Agency has thus changed its requirement so that if more than one company trades production of a controlled substance to another Party or Parties, they will equitably share the burden of absorbing any shortfall in national production. Thus, the allowance balance of the company to trade first would be reduced by the full amount of its trade plus the difference between the allowable production and the three-year national average. If another company were then to trade away its production allowances for the same controlled substance, the first company would recoup part of what it lost and the second company's allowance balance would be reduced. The exact percentage of the required reduction levied on each company would be proportional to the amount of each company's trade. Since allowances are calculated in kilograms, the offset would also be determined in kilograms.

According to several commenters, the implementation of this requirement of the Clean Air Act as proposed would act as a severe disincentive to early cutbacks beyond those required by the Montreal Protocol, and would have a "chilling effect" on the free market's distribution of production of controlled substances throughout the world. They also contended that EPA's proposal regarding transfers to other Protocol Parties could be onerous and unworkable as it would seriously discourage any company from entering into a transfer with another Party.

The Agency believes that the commenters' problem is with the terms of section 616 itself, not with the Agency's manner of implementing it. That section clearly calls for U.S. production to be reduced not only by the amount being transferred but by any shortfall between U.S. actual and allowable production. Congress called for the required reduction to be calculated this way in order to ensure that the production being transferred was not production that would have otherwise gone unused, thereby sparing the ozone layer that amount of potential depletion. The Agency, required to implement the Clean Air Act requirements, has simply codified the most equitable method of distributing the effect of this requirement.

The same commenters suggested that EPA take under advisement and further consider its proposed approach to section 616, and not finalize it with the rest of the rule. The Agency notes, however, that until it implements section 616, no trades of production with Protocol Parties could be undertaken. The regulations that were effective in 1991 expired at the end of that year. Section 616 sets forth the basis on which EPA may allow international trades. In the absence of regulations implementing that provision, there could be no trades. As noted above, while section 616 may make international trades less attractive, EPA has no choice but to implement its requirements.

The Agency has altered its approach to section 616 in this final regulation in response to comments to make it more equitable and less burdensome on any individual firm. As the Act is very specific on this point, EPA does not believe that postponing this section's implementation would lead to a more satisfactory solution.

c. *Trades to the U.S. from other Montreal Protocol parties.* Section 616 also allows for transfers of production from other countries to the United States. If the Party nation agrees to reduce its production limit according to the provisions set forth in the Act, the U.S. may increase its production by the amount transferred.

One commenter asserted that transfers of methyl chloroform and carbon tetrachloride production from Parties do not make sense because other countries do not have limits yet. This company commented that EPA should clarify this point, and declare that a statement to UNEP proving a country's reduction in production would be sufficient to satisfy the Clean Air Act.

While section 616 appears to presume the existence of Protocol limits on the controlled substances being transferred, EPA does not believe that Protocol limits need exist for it to apply and be applied. The purpose of section 616 is to permit the U.S. to transfer production to or from other Parties so long as the total actual production of the U.S. and the Party engaged in the transfer does not increase. Before Protocol limits apply, the same purpose can still be served so long as the Party engaged in the transfer has placed or will place limits on the controlled substances being transferred and revises or sets those limits to reflect the adjustment required by section 616.

Section 616(a) provides that the transferring Party adjust its production level based on its allowable production under the Protocol, its allowable production under domestic law or its average annual production for the three years prior to the transfer. Before Protocol limits take effect, then, adjustments can be calculated based on domestic limits or average production levels. What is essential, though, is that the adjustment be binding on the transferring Party. If it has domestic limits, it must reduce them by the amount transferred. If it has no limits, it must establish limits equal to the average of its actual production in the last three years less the amount transferred.

For EPA to approve transfers of controlled substances, including those that are not yet subject to Protocol limits, the transferee must submit to the Agency a signed document from the principal diplomatic representative in the transferring nation's embassy in the United States stating that the appropriate authority within the nation has revised or established production limits as described. The Agency submits

that in cases where the compounds involved in the trade are not yet regulated under the Montreal Protocol, no purpose is served by sending a statement to UNEP that the country has reduced its production.

An industry group commented that it is unrealistic to expect other countries to revise their production limits as required by section 616 if the resulting limits were more stringent than the applicable Protocol limits. It argued that the Agency should not place the burden of negotiating lower national production limits on the U.S. company seeking the transfer and maintained that if the Agency did not act on a government-to-government basis to negotiate production reductions, no allowance trades from other countries could be carried out. Unless the Agency took part in negotiations, the group stated, allowances would flow only away from the U.S., resulting in lower U.S. employment and balance of trade without environmental gain.

The Agency does not believe that it is the U.S. government's place to negotiate with foreign governments on behalf of U.S. companies that wish to receive production rights from other nations. The Act is clear in requiring that the government of a Party restrict its production if a U.S. company is to receive production from that Party. If a foreign company wishes to transfer production rights, it must work with its government to achieve national reductions in production. Although the U.S. will continue to act on an international level to encourage nations to join the Protocol and phaseout ozone depleting substances, the Agency will act as an agent for U.S. firms wishing to carry out allowance transfers.

In addition, the Agency does not agree that this provision of the regulations will result in a one-way transfer of allowances away from the U.S. with negative economic consequences. Under the regulations, before trades of production from the U.S. can occur, EPA may evaluate the economic ramifications and, in cases where negative consequences are anticipated, disapprove the transfer.

H. Obtaining Additional Allowances—Transformation

1. Carbon Tetrachloride Transformation

a. *Summary of today's final rule.* EPA decided to change the provisions for the tracking of carbon tetrachloride production and transformation from those proposed in the September 30, 1991 notice in light of the comments received during the rulemaking proceeding. Under today's regulations, any company that produces carbon tetrachloride to be used as feedstock may do so without expending production and consumption allowances under certain conditions. In order for the company to avoid the prohibition against producing without allowances, however, the same amount of material it reports to EPA as "production for feedstock use" in a control period must be transformed by the end of the first quarter of the next control period. No "transformation allowances" or up-front commitments will be necessary for companies to produce carbon tetrachloride for feedstock. Instead, recordkeeping and reporting requirements needed to make this added flexibility for producers of carbon tetrachloride and feedstock users possibly have been promulgated.

b. *The proposal.* The Agency proposed a new system of "transformation" allowances for the production of carbon tetrachloride to be used as a feedstock. Under the system in effect in 1991, producers of carbon tetrachloride, like the producers of the other controlled substances, were not allowed to produce the chemical unless they had adequate production and consumption allowances to cover their production. After the chemical was transformed, the transforming company would be eligible to receive additional production and consumption allowances that could then be used to further produce or import additional carbon tetrachloride. Since a large percentage of the carbon tetrachloride produced is transformed, however, and two of the producing companies received no baseline consumption allowances, the 1991 system proved cumbersome and generated a large amount of paperwork while creating a stop-start production cycle.

The proposed system would provide for the allocation of allowances before the actual transformation occurred, upon the producer's proving to the Agency's satisfaction that it had sales commitments with companies that promised to transform the carbon tetrachloride received. Producers could use these transformation allowances to produce carbon tetrachloride for feedstock use within the same control period. Transformers would report their activities quarterly. Any amount of carbon tetrachloride produced pursuant to transformation allowances and not transformed by year-end would be considered a violation of the regulations.

c. *Proposed system versus 1991 system.* The Agency requested comment on the proposed system as well as the 1991 system. Two commenters commended EPA for developing a new approach, but said that the proposed system would not solve some problems of the 1991 system and would exacerbate other problems. Another commenter remarked that the proposed system would be an improvement from the current system in that would solve the problems of stop-start production and of requiring producers to have allowances before producing carbon tetrachloride for exempt uses (in 2000). However, according to this company, the proposed scheme still had several flaws, which are discussed in more detail below.

In preparing the final regulations, the Agency has taken these comments into account, and altered the proposed transformation allowance system so that it will work more smoothly while maintaining an effective compliance monitoring mechanism.

d. *Allowances for the production of feedstocks.* Two companies asserted that since the manufacture of controlled substances used for feedstock is not deemed production under EPA's regulations, no allowances of any kind should be required to manufacture carbon tetrachloride for that purpose. One company commented that the word "production" found in the Protocol and the Act does not include the manufacture of controlled substances that are wholly used and consumed in the manufacture of other substances, and thus that EPA's proposed regulations unjustifiably and without authority would prohibit the sale of controlled substances for feedstock purposes except to the extent permitted by existing production and consumption allowances. One commenter also contended that EPA's interpretation of production denies the plain and ordinary meaning of the words contained in the statute, cannot be reconciled with other parts of the statute, and is neither required nor suggested by the Montreal Protocol. According to this company, since the effect of EPA's interpretation is to place a restriction on trade in these chemicals that is not authorized or required by the Statue or the Protocol, the Agency's position is unlawful. One comment indicated that it would be less disruptive of business to interpret the feedstock exclusion as covering the current year's production that has been or will be used as feedstock, requiring only a certification that the material will be transformed eventually.

The Agency continues to believe that the Clean Air Act and Protocol definitions of production may be read to include any amount of feedstock chemical manufactured until it actually

is transformed. The Clean Air Act, after all, excludes from production those controlled substances that are "used and entirely consumed" in the manufacture of other chemicals (emphasis added). At the same time, EPA concedes that the use of the past tense does not necessarily connote that the substance must have been used and consumed before it may be excluded from production. There are strong policy reasons for interpreting production as the Agency has in the past, to ensure that controlled substances are not produced in amounts greater than the Protocol and Clean Air Act allow and then not transformed.

In the case of controlled substances largely used as feedstocks, however, EPA's past interpretation can be unwieldy to implement. To address this concern, the Agency believes that it is permissible to interpret the definition of production in such a way that any chemical transformed at any point in time is never deemed "produced" within the context of the Protocol and Act. For reasons discussed in the following sections, EPA has determined that the allocation of transformation allowances for the production of carbon tetrachloride as feedstock (a system premised on the first interpretation) would not provide significant compliance monitoring advantages, while it would increase industry's and EPA's administrative burden. Consequently, this rulemaking provides that companies may produce carbon tetrachloride for feedstock use without expending allowances.

One commenter stated that within the same company, EPA excludes the transformed chemical from production, and there is no compelling reason for treating transformation by other companies differently.

The Agency's response is that prior to today's rule, all production, including feedstock production required the expenditure of consumption and production allowances and was not excluded directly from production. The commenter is most likely referring to the Agency's suggested format for the producer's quarterly report, which is simplified by netting out the amount transformed during that quarter from the amount produced during that quarter (the regulations promulgated today do not change this reporting system for internal transformation). It has been under past rulemakings and continues to be prohibited, however, to produce controlled substances for feedstock use without expending production and consumption allowances to cover that production, so in-house transformation is treated the same as second-party transformation. This rulemaking alters that system for carbon tetrachloride only.

One commenter also remarked that with few producers and transformers involved, enforcement would be just as easy for second party transformation as for producer transformation. Therefore, according to the commenter, the two systems should be treated in the same manner, as Congress intended.

To date, however, the Agency has identified at least 30 companies that transform carbon tetrachloride, in addition to six companies that produce it as well. The tracking of second party transformation thus is not as simple as tracking internal producer feedstock use. Therefore, the Agency is placing specific controls on producing and transforming companies to ensure compliance, which are outlined below.

e. *Written contracts and commitments to transform.* One company and an industry group commented that the proposed requirement for written fixed-amount contracts before transformation allowances could be granted would alter current business practices. In addition, they stated that sending each new purchase order to EPA would involve considerable paperwork without corresponding benefits. These commenters were also concerned that the production limits would still be exceeded if customers do not take the amount of carbon tetrachloride ordered or do not transform it by the year-end.

These commenters maintained that elements of EPA's proposed requirements do not take account of everyday business practices, as contracts are often only for estimated amounts. These three companies stated that the proposed system would prevent production without advance orders, which would make the production process slow to respond to immediate or emergency needs.

Responding to these concerns, the Agency has removed the requirement that a producer obtain up-front commitments from purchasers to transform carbon tetrachloride. Since EPA is not establishing a system based upon the provision of "up-front" allowances for carbon tetrachloride, EPA does not believe it is necessary to require producers to obtain the up-front commitments, the purpose of which (as explained in the NPRM) would be to determine the precise amount of carbon tetrachloride intended for transformation so that the appropriate amount of allowances could be granted. Instead, a producer must report every quarter its sales of carbon tetrachloride to each feedstock-user and provide the IRS certificates of the customers involved. The certificate shows the customer's intent to transform and substantiates the producer's claim that its feedstock production in excess of its production allowances will be transformed. Thus, industry will have more flexibility in responding to emergency orders, while EPA will still have adequate assurance that the carbon tetrachloride will be transformed.

f. *Year-end problem.* Several commenters expressed concern about the provision in the proposed rule that all of the carbon tetrachloride produced pursuant to transformation allowances for one control period must be transformed within the same control period or be counted as production. This provision stemmed from the Agency's interpretation of production as excluding the quantity manufactured and already used as a feedstock, but including any quantity manufactured and not yet used as a feedstock, even if that is its intended use. This means that at year-end, any inventory of the chemical remaining (even if intended for transformation) would be counted as production. The proposed system would be advantageous for compliance monitoring because it would assure that transformation occurs before additional allowances are granted. However, in light of these comments and its experience implementing carbon tetrachloride controls in 1991, EPA believes that the disruptive effects of this approach outweigh the compliance monitoring advantages in the case of carbon tetrachloride. The broader interpretation of production discussed earlier, allowing the amount of chemical transformed after the control period in which it was produced (not just within the same year) to be excluded from production, avoids the problem of year-end shutdown. In order to avoid plant shut-downs at year end, the Agency has decided that carbon tetrachloride transformed by the end of the first quarter in the control period following the control period in which it was produced may be excluded from the previous control period's production. Producers will be required to report production separately from production-for-transformation, for which no allowances will be expended. The effect of these rules will be the same as dividing the carbon tetrachloride manufactured into "produced" and "transformed" quantities.

The final regulations allow for two types of carryovers. First, a three-month grace period for transformation after the

end of the control period in which it was produced is established. Second, the producing company must show only that an amount equivalent to the amount it produced during the control period without the expenditure of production and consumption allowances for that control period was transformed. This means that production from one control period that is transformed at the beginning of the following control period could count towards the amount that must be transformed during the current period. For those companies that do not have baseline consumption allowances, this second type of carryover could provide them with a needed cushion. For all companies, the carryover period will provide flexibility needed to deal with the unpredictable instances of untransformed inventory.

One company maintained that by 1996 it will have the capability to transform carbon tetrachloride produced as by-product with a superior, environmentally sound technology. This company proposes that EPA allow coincidentally produced carbon tetrachloride to be stored in 1995 and 1996. The commenter noted that this would not violate the Clean Air Act and Montreal Protocol because production for feedstock is not production.

If the Agency were to allow indefinite storage of production-for-feedstock, it would not be able to effectively monitor companies' compliance. Even if a company's production far exceeded its internal or its customers' transformation, it could always claim that the material was intended for future transformation. The Agency has determined that there must be some transformation cutoff date in order to ensure compliance with the Act and Protocol.

The Agency considered all of the carryover time periods suggested by commenters, ranging from 30 days to one year, and selected three months, or one quarter, as the most workable. Although some commenters indicated that any carryover from one year's production could be completely transformed by the end of the following January, a carryover period equal to one quarter reduces the reporting burden on companies by allowing them to provide information on the transformation in the first quarterly report. Six-month and one-year grace periods were rejected as being unnecessarily long, since previous-year compliance could not be determined until much later, in the case of the one-year grace period, up to 14 months after the end of the relevant control period.

Under the one-quarter carryover system, every transformer of carbon tetrachloride must report each quarter the amounts of carbon tetrachloride it has transformed. Each quarter, every producer will report its production intended for transformation and its non-feedstock production, and provide sales data and IRS certificates for each customer to which feedstock production was sold. After the end of the first quarter of the following control period, EPA will compute a mass balance. Compliance would be monitored for 1992 as follows: Amount Transformed in '92 + Amount Transformed in first quarter of '93 must be ≥ Amount Produced-for-Transformation in '92.

The next year, the mass balance will be calculated as follows: Amount Transformed in '93 − Amount Transformed in first quarter '93 that was attributed to '92 produced + Amount Transformed in first quarter of '94 must be ≥ the Amount Produced for Transformation in '93.

Under this system, companies may allot a certain amount of first quarter transformation to justify previous-year production for-feedstock uses. Any amount of first quarter transformation that exceeds what is needed to cover previous-year production will count towards transformation of feedstock production in the same year. All second, third and fourth quarter transformation will be attributed to production in the same year, along with as much of the next year's first quarter transformation as is necessary. Companies will be out of compliance if their first quarter transformation is not large enough to account for the previous year's remaining production-for-transformation.

An industry group inquired what would happen if a transformer starts a control period with inventory and ends the year with an untransformed inventory. For example, would a portion of any transformation that took place be allocated to the preexisting inventory and thus not be counted toward the current year's production? This commenter also asked what would happen if a transformation occurred early in the control period before carbon tetrachloride was actually purchased during that control period.

Under the feedstock tracking system, no transformation will be allotted to specific sources. A transformer beginning a year with inventory and ending the year with inventory does not present a problem because the amount transformed in that year could still be precisely calculated and matched against the producers' feedstock production. As a result, it does not matter if transformation of past-year purchases occurs, as this type of carryover is allowable if the total amount transformed in one control period plus the following carryover period minus the previous year's carryover is equal to or less than the amount produced in that year for feedstock.

One commenter maintained that transformation documentation should be based upon changes in bulk inventory, and not be tied to carbon tetrachloride in a specific shipment. This company stated that material received in bulk (e.g., by tank truck or rail car) would not be stored by discrete shipment, but would be combined in a single storage tank or battery of tanks.

The tracking system promulgated in this regulation allows for treatment of transformation reporting in a manner similar to the reporting of production, based on inventories, shipments and other pertinent information. The system thus avoids the problems of tracking the fate of individual shipments in a continuous manufacturing process.

g. *Liability if production for feedstock exceeds transformation.* Under the proposed rule, a carbon tetrachloride producer that produced no more than its transformation allowances permitted would still be liable if the carbon tetrachloride produced pursuant to the transformation allowances was not transformed in the same control period as it was produced. Several commenters objected that producers should not be held liable for the failure of purchasers who agreed to transform the production to do so. They maintained that as long as a carbon tetrachloride producer does not exceed its production allowances, the Agency should consider it in compliance.

In the final rule, the Agency has maintained the basic tenet of this aspect of its proposal—that producers remain ultimately liable for production not transformed. Under this rule, a company that produces without allowances a given quantity of carbon tetrachloride for feedstock use during a control period must ensure that at least that amount has been transformed by the end of the first quarter of the next control period. Any amount that is not transformed will be counted as production and production and consumption allowances will be deemed to have been expended. To the extent that a company's total production, including that not transformed, does not exceed its production and consumption allowances, it will be in compliance with the regulations. To the extent that its total production does exceed its allowances, it will be in violation.

The Agency has placed liability on the producer because the Act restricts production, not transformation. The specter of potential liability gives producers an incentive to ensure that their customers' claims that the carbon tetrachloride will be transformed are fulfilled. Since it is the producer who takes the first step in deciding whether or not to produce the chemical, and assures the Agency that this production will be transformed, it is clearly the producer's responsibility to see that the transformation is in fact carried out. Such liability is not only required by the statute, but also assures the protection of the environment. At the same time, producers may enter into contracts with transforming companies that contain clauses providing that the transforming companies will compensate the producer for any financial consequences of liability.

Several commenters maintained that EPA has the authority to hold customers liable because of its authority to limit production and transformation. One company contended that if the customer's action causes the carbon tetrachloride to be classified as production, then the customer becomes the de facto producer and as such is liable. Another commenter stated that if the Agency does not believe it has this authority, it could still place liability on transformers by granting transformation allowances only to companies that have signed a liability statement.

The Agency believes at this time that even if it has the legal authority to place liability on transformers, this would not be an effective way of ensuring compliance. As noted earlier, the number of transformers far exceeds the number of producers, and the monitoring of transformers thus presents greater difficulties than does the monitoring of producers.

One commenter remarked that for cases of failure to transform due to "Acts of God," there should be a provision allowing EPA to issue an enforceable consent order requiring the customer to transform or destroy the carbon tetrachloride within 180 days. If a customer does not comply, EPA should fine the customer and arrange for the destruction at the customer's expense.

The Agency is providing a 90-day grace period in which a producer and transformer can arrange for transformation of untransformed inventory, whether it is due to "Acts of God" or any other cause. If the material is not transformed within the first quarter after year-end, the Agency will take enforcement action and collect fines from the producer of the chemical. Producers may pass fines and costs onto their customers as they see fit through contract provisions.

Another company commented that the proposed liability system ensures that transformation will take place. This company suggested that compliance will be effected through normal contract procedures since the EPA is clearly placing the burden on the producers. Therefore, producers will establish adequate contract and other control mechanisms to assure that the transformation occurs because they would be exposed to substantial noncompliance penalties.

By contrast another company responded to the Agency's suggestion in the NPRM that producers could use provisions for liquidated damages in contracts in order to avoid the costs of fines for transformers' failure to transform. They stated that liquidated damages provisions are inadequate for two reasons: (1) a customer would not sign the contract, and (2) damages might be uncollectible (i.e., in the case of bankruptcy, the security interest would not cover the fines, and other creditors would be harmed). A supplementary comment added that it is not commercially realistic to believe that a company would agree to manufacture carbon tetrachloride even though it would be held liable if the purchaser did not transform the chemical. This company commented that there is no reason why the onus of the prohibitions cannot focus on the buyer.

The Agency believes that if a customer were already certifying on IRS certificates that it would transform the material and it could not obtain carbon tetrachloride without signing a contract containing the provisions discussed above, then it would not be difficult to reach an agreement on liquidated damages in cases of failure to transform. The Agency also submits that the risk that a customer will declare bankruptcy or otherwise default, is a risk normally encountered and that if a producer perceives the risk to be too high, it would not be prudent to continue selling feedstock to that customer. Producing companies, in addition to making responsible decisions about to whom to sell the material, could make provisions for transforming the remaining material at another company's or one of their own plants. Thus, liquidated damages provisions should prove to be an effective method by which producers can ensure that their customers are financially accountable for failure to transform.

In sum, the Agency continues to believe its proposed liability system will be the most effective in ensuring compliance. Although the Agency is not requiring fixed contracts between producers and transformers, it is likely that producers will arrange for these types of agreements in order to guard against being penalized for untransformed material.

One commenter asked which producer would be penalized if a customer of two producers failed to transform within the control period. Under the scheme for carbon tetrachloride transformation promulgated in this rulemaking, transformers are required to report exactly how much carbon tetrachloride from each producer was transformed in each quarter. In cases where product from several producers is mixed in tanks, the governing assumption for whose carbon tetrachloride was transformed first would be "first in, first out" (FIFO), unless the transformer indicates that it plans to use an alternate method. This method is widely-used in industry and has in the past been the basis of some companies' distinction between imported and domestically-produced material that is mixed before sale to transformers. Thus if a transformer received a shipment from one producer on the first of the month, and a shipment from another producer on the fifteenth of the month, the assumption would be that the first producer's material was transformed first. In this way, it could be determined to whom any untransformed material should be attributed. If a transformer does not wish to use the FIFO method, the company should submit a description of the alternate calculation method and a justification as to why FIFO is not satisfactory prior to submitting its first quarter report. The Agency will either approve or disapprove the request for the use of an alternate method, based on whether it can be reconciled with other transformers' calculation methods and FIFO.

Although today's rule makes the producer liable in cases where feedstock production exceeds transformed amounts during the five-quarter period, EPA will continue to monitor the effectiveness of relying solely on this compliance mechanism. If the Agency determines in the future that transforming companies are acting in bad faith by failing to transform, it will consider proposing regulations making transformers also liable pursuant to its statutory authority under section 615 of the Act. That section grants EPA broad authority to regulate practices or activities (such as failing to transform) that may reasonably be anticipated to contribute to ozone depletion and endanger public health or welfare.

h. *Provision for the export of carbon tetrachloride.* Two commenters remarked that elements of the proposed rule could eliminate their ability to produce for export because they cannot produce without consumption allowances. The commenters stated that two producers, including one of the commenters, have zero consumption allowances. That company commented that if the proposed system is adopted, it should be expanded to provide special export allowances under rules analogous to the rules for obtaining transformation allowances.

For exports, the Agency will use a process similar to that set up in 1991 for companies that needed up-front allowances in order to produce for transformation. Production of carbon tetrachloride for export does not present the same problems as production for transformation, as only a small percentage of the carbon tetrachloride manufactured in the U.S. is exported. Nevertheless, EPA recognizes the need for a mechanism for companies that did not receive baseline consumption allowances to enable them to produce and then export. These companies will be granted consumption allowances each year, equal to their production allowances for that year in order to produce for export. Companies must hold at least this number of consumption allowances at the end of the control period; they will receive consumption allowances equal to the number they expended to produce upon exporting their production. The Agency will allow companies to continue to process paperwork demonstrating that exports took place in the proper control period for up to 45 days after the end of the control period.

i. *Recordkeeping and reporting for the carbon tetrachloride transformation system.* Recordkeeping and reporting requirements have been changed from the proposal to be consistent with the carbon tetrachloride transformation system adopted here. Producers will be required to keep on-site records of:

- The type of information required under the 1991 rules; and
- Sales of material (invoices) to transformers.

Producers will also have to file quarterly reports registering:

- The same type of information required under the 1991 rules, with "production" including only carbon tetrachloride manufactured and not intended for transformation;
- The amount of "feedstock production" (carbon tetrachloride manufactured and intended for transformation);
- The amount of feedstock production sold to each transforming company; and
- IRS certificates for each transformer.

Transformers will be required to keep on-site records of:

- The same type of information required under the 1991 rules for companies that request additional allowances for the use of a controlled substance as feedstock;
- All purchases of carbon tetrachloride for feedstock;
- Shipments received and the date and quantity of material received;
- The source of all purchases and shipments; and
- Quarter-start inventories of carbon tetrachloride.

Transformers will also have to file quarterly reports including:

- A list of producers or importers from whom material was purchased; and
- The amount of each producer's or importer's material that was transformed during that quarter. If material from several producers or importers was mixed, the transformer should use the first in, first out (FIFO) method for determining whose production was transformed, unless the Agency has approved an alternate method for that company.

2. Transformation of Other Controlled Substances

One company commented that producers of methyl chloroform should also be allowed to exclude methyl chloroform that is transformed from production because in the future the use of methyl chloroform as a feedstock will increase. It presented the example of the production of HCFCs, which in 1995 may run into the same problems of allowance recycling delays and year-end problems as are experienced currently for carbon tetrachloride.

EPA recognizes that as the phaseout progresses, it may be appropriate to expand the carbon tetrachloride transformation system to other chemicals and to exports. To date, however, the burden of allowance cycling for chemicals other than carbon tetrachloride has not been large enough to warrant expanding the transformation system, which provides less assurance that production for feedstock purposes is actually transformed.

Another company remarked that it and a number of other companies use controlled substances as manufacturing feedstocks, including for HFCs being developed as CFC substitutes, and that their need for such feedstocks is expected to increase in the future. According to this commenter, these companies would be placed at an unnecessary and unauthorized competitive disadvantage simply because they buy, instead of make, their feedstock chemicals. It asserted that the proposed rules would place a "choke-hold" on companies that must purchase controlled substance feedstocks and products made with them, giving an enormous advantage to manufacturers who produce their own feedstocks. The commenter maintained that this aspect of the proposal was unnecessary to protect the ozone layer, and was not authorized or required by the Clean Air Act. Moreover, this company argued that the differential treatment of second-party transformers significantly injure the U.S. and individual companies. It added that at the conclusion of the phaseout period it would no longer be possible to purchase controlled substance feedstocks (except for carbon tetrachloride) because there would be no more allowances. Moreover, this company maintained that in the interim, supplies would be scarce and prices would be unnecessarily high, without environmental benefit.

The Agency has been monitoring allowance cycling for second-party feedstock use of CFC feedstocks since July of 1989 and has yet to encounter any situation where companies had difficulties purchasing feedstock chemicals because of a "choke-hold" on allowances. Indeed, to date there has been a surplus of allowances at the end of each control period. Again, as the phaseout begins to take effect, this situation could change. The Agency prefers, however, to continue with the current system, which has been effective and has not presented problems for chemicals other than carbon tetrachloride, until it is determined that the carbon tetrachloride transformation system as promulgated in these regulations is effective and can reasonably ensure compliance with international production and consumption limits. At that time, the Agency will reconsider switching other controlled substances over to this control system. It is not the Agency's intention to disadvantage second-party transformers or to stifle the production of CFC substitutes. The commenter has presented no compelling evidence that this is currently taking place.

3. Provision for the Import of Feedstock Carbon Tetrachloride

One company asserted that under the 1991 and proposed rules, importation of controlled substances for feedstock use can only be accomplished by expending

consumption allowances, which will become unavailable in 2000. In the interim, this company maintained that transfers of allowable production between Parties (to permit greater domestic production of controlled substances for feedstock use) would be subject to an even greater offset than that applied in the case of domestic transfers. As certain feedstock materials needed for industry are in short supply (e.g., Halon 2402), the company inquired as to why American industry should be denied the opportunity to import these feedstocks.

This comment raises several issues. The first is how the import of feedstock substances should be treated. The Agency has provided that companies that wish to import carbon tetrachloride for feedstock use do not need to expend consumption allowances. In this way the import of carbon tetrachloride feedstocks is treated in the same manner as the production of the same. The offset for inter-Party trading of allowable production should not directly affect importation of controlled substances. Second, other controlled substances (such as Halon 2402) are not being considered for this type of treatment currently for the reasons discussed above. However, if at a later date the Agency were to establish a similar system for the other controlled substances as well, provision would also be made for imported feedstocks and of these substances.

4. Transformation in Foreign Countries

One commenter maintained that after a Party transfers to the U.S. some amount of its allowable production, U.S. companies should be able to get production and consumption (or transformation) allowances for exporting the actual production that results when the exports are used as feedstocks in other countries upon submitting proof of export, transformation, and the importer's intended use.

EPA at this time cannot grant additional allowances for, or exempt from production limits, controlled substances that are manufactured for transformation abroad. The Parties to the Protocol have specifically addressed this issue and decided that the country in which the transformation takes place should be able to exclude from its limits the amount transformed. (*See* 55 FR 24491 June 15, 1990.) Moreover, the Agency could not inspect transformation facilities in other countries, and, therefore, would not be able to enforce production limits adequately.

I. Obtaining Additional Allowances—Exports

I. Proof That Exports to Article 5 Countries are Not Reexported

The Clean Air Act allows producing companies to increase their production by up to ten percent of their baseline for the purpose of supplying the basic domestic needs of developing countries operating under Article 5 of the Montreal Protocol. The Agency's proposed method of tracking this production is to create potential production allowances equal to ten percent of each company's baseline that can be converted into actual production allowances if companies can prove that they have exported to Article 5 countries for the purposes of supplying their basic domestic needs. The Agency proposed to define "basic domestic needs" as the parties have thus far defined it. This definition presumes that controlled substances supplied to developing countries are used for basic domestic needs to the extent that they are not re-exported in bulk form. The Agency proposed that companies that wish to convert potential production allowances to production allowances submit to EPA documentation verifying that the export has occurred, as well as proof that the material will not be re-exported. As proposed, the documentation could be in the form of a contract providing for liquidated damages equal to the resale price of the chemical in the event the provision not to re-export is breached or could reflect other means to guarantee that the goods would not be re-exported. The Agency requested comments on other forms this proof could take.

One company asserted that re-export should be allowed if it can be demonstrated that re-export is to serve the basic domestic needs of another Article 5 country and also that one test of basic domestic needs could be the fact that there is greater economic value in re-exportation than in internal use. This company stated that to dictate otherwise would disrupt free market forces.

The Agency responds that under the Protocol and section 614 of the Act it does not have the authority to broaden the definition of basic domestic needs as suggested. The Parties clearly indicated in the discussions accompanying the London Amendments that basic domestic needs are not defined to include bulk re-export of any kind.

The same commenter also suggested an alternative scheme for determining basic domestic needs under which EPA would determine the percentage of imports by each Article 5 country that typically is re-exported, and apply this factor to the U.S. exports in order to determine how many authorizations to convert should be given.

EPA does not believe that basing authorizations to convert on past re-exportation statistics would guarantee that countries would not re-export controlled substances in the future. In addition, the Agency finds that determining the re-export rates of all 43 Article 5 countries would be administratively and financially burdensome. This is particularly apparent in light of the fact that the Protocol's Secretariat, which has already requested these data, has not been able to fully determine past export rates for the developing countries.

The Agency is thus finalizing its proposed system, which allows companies to request only additional consumption allowances for exports to Parties that are not operating under Article 5, but allows companies that export to Article 5 countries that have submitted appropriate documentation to receive both consumption allowances and authorizations to convert potential production allowances.

2. Exports to Non-Party Complying Nations

The same company commented that the Agency should allow exports to nations that are not Parties to the Protocol but are complying with its terms to be subtracted from consumption.

Under the Protocol, the Agency may grant additional allowances for exports to non-Party complying nations if they have been identified as such by the Protocol Parties. To date, no non-Party countries have been identified as complying. As countries identified, the Agency will begin granting additional allowances for exports to these countries.

J. Comments on the Impact of the Action

The Agency prepared a Regulatory Impact Analysis (RIA) for this regulation. It discusses the costs and benefits of the action, including benefits resulting from a decrease in ozone depletion. The RIA also contains an analysis of companies' average burden for fulfilling the recordkeeping and reporting requirements.

Two commenters wrote that the RIA was flawed, particularly the sections linking ozone depletion to adverse human health effects. They suggested that the RIA be submitted to the Science Advisory Board for review and comment.

In 1988, the Agency prepared an extensive risk assessment which served as the basis for its original regulations implementing the provisions of the Montreal Protocol. This document included detailed information about the adverse human health effects associated with excess UV-B radiation and ozone depletion. This information was reviewed by the Science Advisory Board and forms much of the basis for the current RIA.

One company also stated that the industry burden estimated for the recordkeeping and reporting requirements was too small. The Agency believes, however, that although the estimate may be too low or too high for any one company, it accurately represents the average number of hours that would be spent by an affected industry entity to fulfill the requirements of this regulation.

V. Section-by-Section Description

A. Authority Citation

The statutory sections implemented by the regulations are sections 603, 604, 605, 607 and 616 of the Clean Air Act as amended by the Clean Air Act Amendments of 1990 (42 U.S.C. 7671 *et seq.*).

B. Section 82.1—Purpose and Scope

This section states that the purpose of the regulations is to implement the Montreal Protocol and sections 603, 604, 605, 607 and 616 of the Clean Air Act.

C. Section 82.2—Effective Date

As proposed, January 1, 1992 is the effective date of these regulations. EPA has determined that it is necessary to maintain the January 1, 1992 effective date even though that will result in these regulations having a retroactive effective date because that effective date is necessary to avoid a period in which there are no regulations containing production and consumption restrictions in force. The temporary final rule promulgated by EPA was effective January 1, 1991 and established requirements only for the 1991 control period, which ended December 31, 1991. Thus, unless the regulations promulgated with this notice go into effect on January 1, 1992, there would have been a period running from December 31, 1991 until their effective date during which no regulations would have been effective. This would present a serious danger of being out of compliance with the Montreal Protocol, as no consumption limits would be in place during that period. Furthermore, it would mean that the Clean Air Act's production limits for 1992, which are self-effectuating, would have been in place without any implementing regulations, a situation that would create uncertainties with respect to producers' compliance with the production limits. (EPA determined that it was necessary to promulgate the temporary final rule concerning the 1991 control period with retroactive effect for similar reasons. See 56 FR 9518 (March 6, 1991).)

EPA does not believe that in the weeks between January 1, and today, any company has produced or imported in excess of the limits established by today's rule. All affected companies were notified of the upcoming regulations, were able to review the proposal and in general were made aware of the production and consumption restrictions through the requirements of the temporary final rule in 1991. The Agency contacted these companies by mail and sent each one a copy of the temporary final regulations, the subsequent NPRM, and the direct final amendment to the temporary final rule, published on December 30, 1991. The changes that have been made here to the proposal do not include any requirements that are more stringent than those in the proposed rule. Accordingly, the retroactive nature of the regulations should not pose a problem for the regulated community. For the reasons given in the temporary final rule regarding its retroactive effective date, including the fact that it is highly unlikely that any company would have exceeded its allocation of allowances for the whole year in the short period since January, EPA does not believe that any member of the regulated community will be placed out of compliance with the regulations as a result of their retroactive effect.

A savings clause has been included in the regulations so that enforcement action can continue to be taken for violations of the requirements of the temporary final rule.

D. Section 82.3—Definitions

Several definitions are revised to conform to the definitions set forth in section 601 of the Clean Air Act. In particular, the terms "import" and "production" are changed to conform to their section 601 counterparts, and "control period" is redefined to include the calendar-year period specified in this section. Several other refinements of definitions are included as well.

"Production" includes spills that may occur, as discussed in a previous rulemaking on spills promulgated by the Agency (55 FR 24490).

The proposed regulatory language concerning the exemption from the definition of import for Maquiladora transactions has been modified to reflect more accurately the nature of Maquiladora arrangements. Consequently, instead of providing an exemption for imports "from Mexico by companies operating under the Maquiladora Accord," the new regulatory language provides an exemption for "[b]ringing controlled substances into the U.S. from Mexico where the controlled substance had been admitted into Mexico in-bond and was of U.S. origin." The new language better reflects the reality of the arrangement, which is that controlled substances crossing the border from the U.S. into Mexico "inbond" (i.e., under a bond insuring that the controlled substances will remain in Mexico only on a temporary basis) will be returned to the U.S. For the purposes of this regulation, therefore, the Agency will not require those persons importing controlled substances from a facility in Mexico operating under a Maquiladora arrangement to expend consumption allowances nor will the Agency grant allowances for an export to such a facility. The Agency believes that because allowances are expended when such controlled substances are initially produced in the United States, compliance with the Montreal Protocol will not be adversely affected by this exemption.

Section 601(7) does not define "importer." For the purposes of these regulations the Agency defines an importer as the person listed as the importer of record on U.S. Customs Service forms for the import of a controlled substance into the United States.

The Amendments also do not define "export" or "exporter." EPA is retaining its current regulatory definitions of these terms.

EPA is also retaining its definition of "controlled substance." This definition, which is based on its Protocol counterpart and includes elaboration adopted by the Parties, distinguishes between bulk chemicals, which are regulated, and products, which are not regulated under section 604. "Controlled substance" means any substance listed in appendix A to this part, whether existing alone or in a mixture, but excluding any such substance or mixture that is in a manufactured product other than a container used for the transportation or storage of the substance or mixture. Any amount of a listed substance that is not part of a use system containing the substance is a controlled substance. If a listed substance or mixture must first be

transferred from a bulk container to another container, vessel, or piece of equipment in order to realize its intended use, the listed substance or mixture is a controlled substance.

All of the above revisions to the definitions are being adopted as proposed, with the exception of the definition of importer. Several alterations have been made to the proposed definitions of calculated level, production and transformation for clarification purposes. Since the transformation allowance system is not being adopted, the definition of transformation allowances has been dropped. Definitions of CUBP and MACT have been added. The CUBP definition incorporates the commercial test and the dependent-variable test discussed above, and the MACT definition includes a requirement for 99.99 percent destruction efficiency.

E. Section 82.4—Prohibitions

In this section, EPA prohibits persons from producing or importing controlled substances in excess of the production allowances and consumption allowances they hold, with the exception of the production of carbon tetrachloride for feedstock and CUBP carbon tetrachloride and methyl chloroform. In addition, this section prohibits persons from producing or importing more than 150 percent of their baseline levels of Group I chemicals between July 1, 1991, and December 31, 1992, except to the extent they have obtained additional allowances by exporting to Parties in general or Article 5 countries in particular, by transforming Group I substances, or by obtaining allowable production from another Protocol Party during the same period. This added restriction on Group I chemicals ensures that the United States continues to meet its obligations under the Montreal Protocol. Companies are also prohibited from importing controlled substances in Groups I and II from non-Party countries.

Exemptions from the production and consumption restrictions have been added here as discussed above. These include the exemption for the production of carbon tetrachloride for feedstock that is transformed by the end of the first quarter of the next control period and the exemption for immediately contained and destroyed CUBP production of controlled substances in Groups IV and V.

Companies that wish to qualify for the exemption for immediately contained and destroyed CUBP production of carbon tetrachloride and methyl chloroform must submit the following information to EPA within 45 days after the beginning of the control period (except in 1992, when the information should be submitted 45 days after the publication of this notice):

—The name and address of the plant at which the CUBP production takes place, and the name and telephone number of a contact person;
—A description of the process of which the chemical is a by-product;
—The name of the primary chemical produced in the process;
—A description of the destruction technology to be used, including documentation showing that it has a destruction efficiency of at least 99.99 percent;
—An estimate of the annual production and subsequent destruction of the controlled substance;
—Documentation describing the handling of the material and showing that all procedures are consistent with regulations under RCRA or other applicable rules; and
—A statement of whether the process and destruction method was being used in 1989 and whether the amounts manufactured were included as "production" in reports submitted for use in EPA's baseline calculation.

This information is similar to that appearing in the proposed rule, with the addition of that relating to the 99.99 percent requirement, other regulations, and how the process was treated in baseline-year reports. In addition, these companies are required to keep on-site dated records of the quantity of the CUBP carbon tetrachloride and methyl chloroform produced at the facility, as well as dated records of the quantity of the CUBP controlled substance destroyed at the facility or shipped from there to an off-site destruction facility.

This section also specifies the equation that the Agency will use to calculate each company's compliance in the production of carbon tetrachloride for feedstock.

F. Sections 82.5 and 82.6—Apportionment of Baseline Production and Consumption Allowances

In these sections, EPA is promulgating each company's baseline production and consumption allowances for each chemical within the five groups of class I substances. The Agency is reserving the apportionment of allowances for class II substances as proposed.

EPA's method for baseline calculation remains unaltered from the proposal. As noted in the NPRM, to establish baseline allowances for the groups of newly regulated chemicals, EPA obtained information on and documentation of companies' 1989 production, import, and export of these chemicals through a request issued under section 114 of the Act. Because section 601(11) excludes from the definition of production the amount of a chemical used and entirely consumed (except for trace quantities) in the production of another chemical, the Agency also requested companies that had consumed or transformed the regulated chemicals as feedstock in the manufacture of another chemical to supply information documenting the transformation. Based on this information, the Agency calculated companies' baseline production and consumption allowances for the groups of newly regulated chemicals specified by section 602 (i.e., Group III—the newly regulated CFCs; Group IV—carbon tetrachloride; and Group V—methyl chloroform).

Baseline production allowances were calculated by excluding from the amount of the newly regulated chemicals produced in 1989 the amount of those chemicals transformed in the same year. The Agency attempted to trace every discrete amount of a chemical that had been transformed to the producer of that discrete amount of chemical and exclude that amount from the producer's baseline allowances. In some cases, however, EPA was unable to track the chemical transformed to its original producer. To account for these unassignable amounts of transformed chemicals, EPA applied a correction factor to distribute these amounts among producers of the relevant chemicals based on their respective market shares.

The Agency believes that this is a fair way of allocating transformation amounts to the producers of these chemicals, with the larger producers receiving the larger share of the documented, but unassignable, transformation amounts. This approach is also consistent with that taken by the Agency in a previous rulemaking apportioning baseline allowances. In that rulemaking, EPA decided that documented, but unassignable, exports of the regulated CFCs and halons should be allocated to producers based on their relative market share. As a result, larger producers had their consumption allowances decreased more than smaller producers.

EPA determined each company's consumption allowances by performing the consumption equation for each company based on that company's documented production, imports, and exports. For the chemicals for which the Agency is establishing baseline allowances in this rule, EPA was able, in most cases, to track all exports back to

the exported chemicals' producers. However, it was also necessary to allocate unassignable exports to producers in a manner similar to the method used to allocate unassignable transformation amounts to producers. As discussed above, consumption amounts that were negative for two companies were also distributed across companies receiving consumption allowances through use of a correction factor. In addition, since the Protocol as construed by the Parties and EPA's rule do not count imports transformed in the manufacture of other substances against applicable consumption limits, the Agency has not counted baseline-year imports transformed in the manufacture of other substances in calculating baseline consumption allowances. (See 55 FR 24491; June 15, 1990.)

In developing chemical-specific allowances for Groups I and II controlled substances for today's rulemaking, the Agency reviewed the original data submitted in compliance with the section 114 information request promulgated in 1987. In today's rule, producers are receiving chemical-specific production allowances based on what they had reported as production in 1986, excluding any production that was used and consumed as a feedstock for another chemical. Producers and importers of these chemicals are receiving chemical-specific consumption allowances based on their reported production, imports, and exports of these chemicals. The Agency is further adjusting individual consumption allowances within these two groups to take account of the unattributed exports. Chemical-specific, unattributed exports were apportioned to each consumption allowance holder based on the percentage share of the market that producer and/or importer held for that chemical.

Since allowances are no longer allotted on a group basis, they are promulgated here in units of unweighted kilograms, instead of by calculated level, as was used in the past. Although the ODP weights of the controlled substances are still relevant for allowance transfers, actual production and consumption limits now apply separately to each chemical and thus the concept of calculated level is no longer necessary for the purpose of allotting baseline allowances.

Although the baseline calculation method has remained unchanged from that proposed in the September 30, 1991 notice, actual numbers for Groups III, IV and V have changed slightly. These differences are due to the Agency's allowing companies to continue to submit baseline information through the comment period as well as refining the definitions of transformation and destruction. The changes result in baselines that more accurately reflect actual production and consumption in 1989.

G. Section 82.7—Granting and Phased Reduction of Allowances for Class I Controlled Substances

This section allocates percentages of baseline allowances for Group I, Group II, Group III, Group IV, and Group V controlled substances for all control periods until the year 2000 and beyond according to the schedule presented in section 604. Baseline production and consumption allowances are chemical-specific. This section is being promulgated as proposed.

H. Section 82.8—Grant and Phased Reduction of Allowances for Class II Controlled Substances

This section is reserved in this rulemaking.

I. Section 82.9—Availability of Additional Production Allowances

This section provides that persons with baseline production allowances for any controlled substance be granted potential production allowances equal to ten percent of their baseline allowances for that chemical for each year from 1992 through 1999, and 15 percent for each year from 2000 through 2010 (with adjustments for methyl chloroform). Potential production allowances may be converted to production allowances with proof of export to a developing country that is operating under Article 5 of the Protocol, as specified under § 82.11. This paragraph is being adopted unchanged from the proposal.

A company can also increase or decrease its production allowances by trading with another Party to the Protocol under the provisions of section 616. The Agency has adopted proposed regulations under § 82.9(b)(2) as final.

For trades to another Party, the submission must include the identity and address of the person seeking approval of the trade, the identity of the Party, the names and telephone numbers of contact persons for the person and for the Party, and the chemical and level of production being transferred. The trading company's production limit will be reduced according to the formula as proposed, except that if more than one company trades production to a Party in the same control period, the total offset amount will be recalculated and divided between the companies based on the ratio of the amount of their trades. Thus, the first company to trade will see an increase in its balance of allowances if a second company trades within the same control period.

For trades to the United States, similar information is required with the addition that the transferring Party must submit a document from that nation's embassy in the United States stating that it has revised its production limits according to the conditions stated in section 616.

EPA will review trades from and to other Montreal Protocol Parties on a one control period, one time trade basis, as well as permanent trades between Parties for the remaining control periods.

When a Party to the Protocol trades production for the remaining control periods to a company within the United States, the Agency will modify the U.S. company's production allowances to reflect the additional allowances received in trade. For the remaining control periods, the Agency will reduce that companies allowances by the required Clean Air Act schedules, adjusting the traded allowances by a ratio that accounts for the percentage reduction required by that control period relative to the percentage reduction required in the control period in which the trade was received. This is required to ensure that companies reduce their production according to the percentage reductions required under the Clean Air Act, and that total production is phased out by the turn of the century.

In addition, should a U.S. company trade all of its production for the remaining control periods to a Party of the Protocol, that company's zero production for the remaining years will not enter into any calculation of the past three year average if additional trades by other companies occur at a later date. EPA believes that other companies which may eventually trade should not be disadvantaged by the permanent trade of all trades of another company.

However, the Agency will include in the three year average calculation, any production of controlled substances by a company that had traded on a one time basis some production rights during that control period.

Finally, companies may receive additional production allowances for transforming Group I, II, III or V chemicals. To obtain additional production allowances for the transformation of these chemicals, a person must submit a request for production allowances that includes the identity and address of the person; the name and quantity of the controlled substance used and entirely consumed

in the manufacture of another chemical; a copy of the invoice or receipt documenting the sale from the producer of the chemical to the person; and the name, quantity, and verification of the commercial use of the resulting chemical. The Agency uses this information to confirm that the chemical was indeed transformed, and that production allowances were expended in the production of the chemical. If the transformed chemical was imported, the company cannot receive additional production allowances, since only domestic consumption allowances were expended in bringing the chemical into the country.

J. Section 82.10 Availability of Additional Consumption Allowances

Companies can receive additional consumption allowances for exports to Parties. Companies requesting additional consumption allowances must submit the following information: The identities and the addresses of the exporter and the recipient of the export; the Exporter's Identification Number (EIN) listed on the United States Census Export Declaration form; the names and telephone numbers of contact persons for the exporter and the recipient; the quantity and type of controlled substance; the source of the controlled substance and the date purchased; the date on which and the port from which the controlled substance was exported from the United States or its territories; the country to which the controlled substances were exported; the bill of lading and the invoice indicating the net quantity of controlled substance and date shipped and documenting the sale of the controlled substance to the purchaser; and the harmonized tariff number (or "commodity code") of the goods exported.

This information will be used by EPA to verify that the export actually occurred and to prepare end-of-year reports required by the Montreal Protocol. The Agency will review the information expeditiously and issue a notice granting additional consumption allowances to the exporter if all the submitted information indicates that the export actually occurred.

In this rule, the Agency has added a provision for producing companies that do not have baseline consumption allowances for Group IV that wish to produce for export. A limited number of consumption allowances will be granted to the producing company up front, equal to the level of their baseline production allowances for that year. At the end of the control period, the producer must have obtained at least that same quantity of consumption allowances and hold them unexpended in order to be in compliance.

Companies can also receive additional consumption allowances for the transformation of a controlled substance (other than carbon tetrachloride). Any application for additional production allowances for the transformation of a controlled substance will be treated as an application for additional consumption allowances. This section is being adopted as proposed.

K. Section 82.11 Exports to Article 5 Parties

Companies may obtain authorization to convert potential production allowances to production allowances by exporting controlled substances to developing countries that are operating under Article 5 of the Montreal Protocol.

The proof required by EPA in order to grant authorization to convert potential production allowances for exports to Article 5 countries is the same as that required for a request for additional consumption allowances for exports to Parties. However, the exporter must also adequately demonstrate that the export has not been and will not be re-exported in bulk form by submitting a copy of a contract specifying that the material cannot be re-exported and requiring payment of damages if it is re-exported.

This information will be used by EPA to verify that the export did indeed occur and to prepare end-of-year reports required by the Montreal Protocol. The Agency will review the information expeditiously and issue a notice granting authorization to convert potential production allowances to the exporter if all the submitted information indicates that the export did indeed occur and the material will not be re-exported. This section is also being adopted without alteration from the proposal.

L. Section 82.12 Exchanges

Companies must submit requests for inter-pollutant and inter-company allowance trades to EPA that include the identities and addresses of the transferor and the transferee; the names and telephone numbers of contact persons for the transferor and for the transferee; the type and amount of allowances being transferred; the amount of the one-percent offset applied to the unweighted amount traded that will be deducted from the transferor's allowance balance (except for trades of potential production allowances, authorizations to convert, or trades from transformers to producers or importers for the purpose of allowance reimbursement); and the amount of unexpended allowances or authorizations for that chemical that the transferor holds as of the date the claim is submitted to EPA. The Agency uses this information to verify that sufficient allowances exist for the trade. The Agency will issue a "No Objection Notice" within three working days if EPA does not object to the trade. If EPA does deny the trade, the transferee will have ten working days to appeal the decision.

This section has been slightly altered from the proposal. Specifically, language has been added stating that the offset does not apply for trades of production and consumption allowances from transformers to producers for purposes of allowance reimbursement. Trades of potential production allowances and authorizations to convert are also not subject to the offset requirement. In addition, language has been added clarifying that in the case of an inter-pollutant/inter-company trade, the offset only applies once.

M. Section 82.13 Recordkeeping and Reporting

1. Producers

a. *Daily recordkeeping.* Producers are required to maintain dated records of the quantity of the class I controlled substances produced at each facility, including the dated records of the quantity of any carbon tetrachloride produced for feedstock use, the quantity of controlled substances used as feedstocks in the manufacture of controlled substances and in the manufacture of non-controlled substances, and the quantity of any virgin, used or recycled controlled substances introduced into the production process of new controlled substances. They are also required to keep records of the feedstock materials consumed in producing the regulated chemicals at each facility and records documenting the sale of carbon tetrachloride for feedstock use (invoices, bills of lading, etc.). EPA requires records of feedstocks consumed so that the Agency can approximate the quantity of controlled substances produced by monitoring the materials consumed. Records of shipments of controlled substances from each facility must be maintained as well. EPA believes that this requirement will aid the Agency in verifying production. Finally, EPA requires that all spills or releases of 100 pounds or more be recorded, including the date of occurrence and the estimated quantity of the controlled substance released.

These amounts should be included in production totals for reporting purposes.

EPA believes that current methods of recordkeeping will generally be sufficient to satisfy the recordkeeping requirements. EPA is aware that some producers may not make daily production estimates over weekends, and that production may not be measured directly, but may be determined from records of consumption, shipments, and inventories. For the purpose of verifying that these accounting procedures are acceptable, EPA is requiring that producers who have not previously done so submit within 120 days of publication of this final rule a report detailing how production is measured on a regular basis and how its methods are to be used to determine quarterly production figures in kilograms.

b. *Production reports.* EPA also requires that producers report on a quarterly basis, within 45 days after the end of the quarter. The Clean Air Act specifies that controls be on a calendar-year basis and thus EPA cannot allow compliance to be determined based on a company's fiscal period to the extent that it is different from the specified control period. However, if the first and last quarterly reports are adjusted to coincide with the beginning and end of the control period, the interim quarterly reports may be based on a fiscal quarter, provided EPA determines that a company's fiscal quarters follow the calendar quarters closely enough so as not to complicate its review of records.

Since one purpose of these reports is to provide EPA with information to verify production, EPA requires that producers submit the following information: summaries of quarterly production of the controlled substances (for carbon tetrachloride separating out production and manufacture-for-feedstock), specifying the quantity used and consumed as feedstock for controlled and non-controlled substances; summaries of total quarterly and control period to date production levels each class I controlled substance; and the producer's total expended and unexpended consumption allowances, expended and unexpended production allowances, potential production allowances, and authorization to convert potential production allowances to production allowances, as of the end of the quarter. In addition, firms must report the total shipments of each controlled substance from that plant in the quarter. For companies that produce carbon tetrachloride for feedstock use, the proposal has been altered to add a required reporting of amounts sold to each transforming company during the quarter, and the provision of IRS certificates showing that the purchaser intends to transform the material.

2. Importers

a. *Daily recordkeeping.* EPA is requiring the same import records as were contained in its previous regulations (56 FR 9518) and in the proposal, with the addition of requirements for importers of carbon tetrachloride to be used as feedstock. The rule requires that importers maintain daily records of the following: The quantity of virgin, used, and recycled controlled substances brought into the United States; the date and port of entry into the United States or its territories; the country from which the imported controlled substances were exported; and the port of exit. In addition, importers must record the commodity code and the importer number for each shipment and keep the following documentation to verify imports: The bill of lading and the invoice and United States Customs Entry Summary Form. This information will allow EPA to verify shipments against United States Census reports during compliance checks and investigations of potential violations. Retention of the bill of lading and the invoice is necessary to provide EPA with an independent check on quantities imported, separate from Census and Customs data.

Companies importing carbon tetrachloride for feedstock use must keep records documenting the sale of the material to transforming companies.

b. *Import reports.* EPA requires that importers, like producers, file quarterly reports within 45 days of the end of the quarter. Importers may receive shipments at several ports throughout the country and thus may need 45 days to collect and summarize information and report accurate quantities. Also since several importers are also producers, it is helpful for the reporting period for importers to be consistent with the 45-day reporting period for producers. Again, EPA cannot allow compliance to be determined based on a company's fiscal period to the extent that it is different from the specified control period. However, if the first and last quarterly reports are adjusted to coincide with the beginning and end of the control period, the interim quarterly reports may be based on a fiscal quarter, provided EPA determines that a company's fiscal quarters follow the calendar quarters closely enough so as not to complicate record review.

These reports must include the following: The quantity of controlled substances that are imported in that quarter, the level of each controlled substance imported for the quarter and the total for the control period, and the total quantity of expended and unexpended consumption allowances the importer holds at the end of the quarter. The importer must also provide a summary of the import activities that shall include the quantity of each import as recorded on the Entry Summary Form to the United States Customs Service, the date and port of entry into the United States or its territories, the country from which the imported controlled substances were imported, the port of exit, and the name and address from whom additional information can be obtained. In addition, the commodity code and the importer number must be provided to assist with comparison and verification of importer records with United States Census and Customs records. Finally, the Agency requires that importers, when reporting controlled substances contained in mixtures, state what percentage of the mixture consists of controlled substances. These requirements have been adopted as proposed.

The Agency, in implementing the previous rules, determined that exporters must report the residual amounts (heels) of controlled substances that remain in isotanks or canisters or other shipping containers that are returned to the United States as imports. Companies are entitled to receive, and do so when they request them, additional allowances for the full weight of their export. Therefore, as a matter of consistency the Agency must require companies to report the controlled substances that return in the form of heels as imports. These companies must have and expend consumption allowances in the import process. Thus, exporters who intend to return heels must possess allowances before the heels are returned and report heel imports quarterly.

Reporting requirements have been added for companies that import carbon tetrachloride for feedstock use. These companies must report the amount of carbon tetrachloride imported for feedstock use and the amounts sold during that quarter to transforming companies. IRS certificates for those companies must accompany the quarterly report.

3. Exporters

EPA is requiring the same reporting and recordkeeping requirements for exporters as were contained in its previous regulations (56 FR 9518) and

the proposal. Exports for which additional consumption allowances were not requested or for which the request was denied must be reported within 45 days after the end of the year. EPA requires this information to comply with the Montreal Protocol only and, therefore, does not believe that more frequent reporting is necessary. Since consumption allowances are not being granted for these exports, periodic monitoring and independent verification is not needed. Consequently, these exporters need only report at the end of the control period.

For these exports EPA requires that the following be submitted: Name and address of the exporter and recipient of the exports, the exporter's Employer Identification Number (EIN), the type and quantity of controlled substances exported and the percentage that is recycled or used, and the date and port from which the exports were shipped. The commodity code is also required because it allows EPA to verify these shipments. A final reporting requirement includes the date and source from whom the exported controlled substances were purchased.

4. Transformers

Companies that use any of the class I controlled substances in Groups I, II, III or V as feedstock and request additional allowances under §§ 82.9 and 82.10 of EPA's regulations and companies that transform carbon tetrachloride must maintain the following records on site: Dated records of the quantity of controlled substance used and entirely consumed in the manufacture of another chemical; copies of the invoices or receipts documenting the sale from the producer or importer of the controlled substance to the person; dated records of the names, commercial use, and quantities of the resulting chemicals; and dated records of shipments to the purchasers of the resulting chemicals. These requirements are being adopted as proposed.

Recordkeeping requirements have been added for carbon tetrachloride transformers, including dated records of all shipments received and records of amounts of carbon tetrachloride in inventory at the beginning of each quarter.

Companies that transform carbon tetrachloride must report their activities quarterly, within 45 days after the end of the quarter. Such companies must provide the amount of carbon tetrachloride purchased from each producer and transformed during that quarter. The report should include the name and address of the producing and transforming company and the name and telephone number of the contact person at each company. Also provided should be the address of the facility at which the transformation took place, the name of the chemical produced as a result of the transformation, and the verification of its commercial use. This requirement is being altered slightly from the proposal to match the requirements under § 82.9 for requests for additional allowances for the use of controlled substances as feedstock.

5. Class II Controlled Substances

For class II controlled substances, companies who produced, imported, or exported a class II substance must file an annual report within 45 days after the end of the calendar year, stating the amount of each substance that such person produced, imported, and exported during that year. Each such report shall be signed and attested by a responsible officer of the company. This requirement is being adopted as proposed.

VI. Impact of Action

The Agency has prepared a Regulatory Impact Analysis that evaluates the costs and benefits of phasing out class I chemicals.

The costs and benefits of the phaseout were estimated by comparing the percentage of ozone depletion that would occur in the future if the phaseout were implemented to various scenarios, including a projected baseline that would occur in the absence of any regulation, the ozone depletion that would occur with the original 1987 Montreal Protocol limits, and the ozone depletion that would occur under the limits outlined in the London Amendments to the Montreal Protocol and in the amended Clean Air Act.

The RIA used two projections to estimate ozone depletion. The primary method is a parameterization based on a one dimensional model, which has been used in previous EPA analyses of the stratosphere, and is taken from Connell (1986). This model translates emissions of the class I and II chemicals into chlorine loadings, and transforms these loadings into estimates of depletion relative to ozone concentrations in 1970. This first projection does not take into account any depletion that may have occurred prior to 1988.

To account for the observed depletion prior to 1988, the Agency developed a second projection using an adjusted version of the one dimensional parameterized model. In this model, an adjustment factor was applied so that historical emission data, when entered into the model, predicted the observed estimated level of ozone depletion prior to 1988. For this adjustment, the Agency assumed that the average ozone trend over the latitudes 30° N–64° N was representative of the global change in column ozone, and that the trend is due to decreases in stratospheric chlorine. The model was further adjusted to account for the seasonal level of UV–B expected when ozone depletion occurs. The RIA provides results based on both model projections.

The major health benefits of these regulations are attributable to avoided effects of exposure to ultraviolet radiation. The major environmental effects are based on studies that found decreased crop and fish harvests associated with increased ultraviolet radiation. Decreased stratospheric ozone is also expected to lead to increased tropospheric ozone, which can also reduce crop yields, and lead to rapid deterioration of polymers. There are uncertainties related to the links between increased use of the substances and ozone depletion, as well as between decreases in stratospheric ozone and increases in UV–B radiation and their effects on human health and the environment.

A phaseout significantly reduces the rate of depletion of stratospheric ozone. Indeed, the atmospheric models indicate that ozone concentrations will return to historic levels in the middle of the next century under certain scenarios. However, it should be noted that these models have been shown to underpredict the level of ozone depletion in the past, and the two projections do not account for the most recent observation that ozone concentrations have decreased by three to five percent over the last decade in the northern mid-latitudes.

The health effects due to ozone depletion are generated from estimated dose-response relationships. These dose-response relationships have large uncertainties related to the type of population affected, and variability in the studies providing the data. A second human health benefit of ozone depleting compound regulation is reduced incidence of cataracts. The estimated increase in cataracts is roughly 0.5 percent for each percent increase in UV–B.

The quantifiable environmental benefits in the United States due to CFC, halon, methyl chloroform, and carbon tetrachloride regulation, although small when compared to the value of the avoided cancer benefits, are also substantial. Increases in ultra-violet radiation have been shown to affect crop yield and crop quality adversely. Again, the Agency emphasizes that

these benefit estimates are based on limited data containing many assumptions. However, they do provide an order of magnitude estimate of the likely benefits to preserving the ozone layer.

Social costs of reducing CFC, halon, and methyl chloroform use through regulation were estimated by examining the costs of alternative technologies and materials for producing CFC, halon, and methyl chloroform based products. Social costs are the additional amount of resources required to produce an equivalent amount of goods and services for consumers. Regulation also transfers income from consumers of class I based products to other sectors of society. The economic model calculated the costs that society would incur to meet the production targets of the Clean Air Act, based on available or future control technologies. The economic model generally selected those control options that were either already being used by industry, or were the least costly options available, thus minimizing the cost to society. Once selected, the model totalled the social costs and transfer payments needed each year to meet the reduction targets of the Clean Air Act.

The costs of these regulations are expected to depend on the speed at which specific user industries and the economy as a whole adopts techniques to reduce the use of ozone depleting compounds, and on the potential for these technologies to achieve the reductions required. Transfer payments generated by ozone depleting substance regulation are significant, particularly in the initial years of regulation. Cost estimates are also subject to considerable uncertainty because they are sensitive to technical innovation, and future energy and chemical costs.

To estimate costs and benefits distributed over time, the Agency applied several discount rates to various phaseout scenarios. The Agency applied discount rates of two, four, and ten percent to gauge their impact on social costs and benefits. The two and four percent discount rates represent possible estimates of the "consumption rate of interest," where two percent has been used and accepted by the Agency in previous analyses on the impact of regulations restricting the production and consumption of ozone-depleting substances. The ten percent discount rate represents the "real pre-tax rate of return on private investments" and is required by the Office of Management and Budget's 1972 circular A-94. The RIA discusses further the choice of the various discount rates and the circumstances under which each could most appropriately be used. The Agency believes that the two and ten percent discount rates may currently represent the outerbound estimates of the appropriate rate.

The following table summarizes the net incremental benefits in billions of 1985 dollars (between the London Amendments and the Clean Air Act Phaseout Scenarios) of the regulation at the three different discount rates using the two different modelling projections. The London Amendments provide the following net incremental benefits over the 1997 Montreal Protocol: For the unadjusted model—$226 billion to $887.6 billion at a two percent discount rate, $35.8 billion to $145.3 billion at a four percent discount rate, and $-0.6 to $2.2 billion at ten percent; for the adjusted model—$352.7 billion to $1,362 billion at two percent, $57.3 billion to $222.4 billion at four percent, and $0.1 billion to $4.2 billion at ten percent.

Model	Discount rate (%)	Net incremental benefits
Unadjusted	2	1.0–6.5
	4	(0.2)–1.3
	10	(0.3)–(0.2)
Adjusted (assuming a weighted average ozone depletion of approximately one percent).	2	1.6–8.5
	4	0.0–2.1
	10	(0.3)–(0.1)

The Agency is also developing a third projection of ozone depletion that includes the most recent ozone depletion calculations determined by NASA, using an initial depletion amount of 3.38 percent in 1989. The value of benefits to people born before 2075 exceed the control costs through 2075 using discount rates of two, four, and ten percent when the most current ozone depletion measurements are accounted for. Using the two percent discount rate, the net incremental benefits using the re-adjusted model are expected to range between 13.0 and 50.2 billions of 1985 dollars, with the results at the four percent rate ranging between 3.6 and 4.1 billion and the calculation at ten percent showing net incremental benefits from 0.1 to 1.2 billions of 1985 dollars.

VII. Additional Information

A. Executive Order 12291

Executive Order (E.O.) 12291 requires preparation of a Regulatory Impact Analysis for major rules, defined by the order as those likely to result in:

(1) An annual effect on the economy of $100 million or more;

(2) A major increase in costs or prices for consumers, individual industries, Federal, State or local government agencies, or geographic industries; or

(3) Significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based industry to compete with foreign based enterprises in domestic or export markets.

EPA has determined that these regulations meet the criteria of a major rule. The Agency estimates that annual industry costs will exceed $100 million. A regulatory impact analysis has been prepared to analyze these costs and has been submitted to the Office of Management and Budget for review.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, requires that federal agencies examine the impacts of regulations on small entities. Under 5 U.S.C. 601(a), whenever an agency is required to publish a general notice of rulemaking, it must prepare and make available a regulatory flexibility analysis (RFA).

The Agency originally published an RFA to accompany the August 12, 1988 final rule (53 FR 30566) that placed the initial limits on the production and consumption of CFCs and halons. The RFA concluded that of the industries affected by regulation of CFCs and halons only some segments of the foam blowing industry were potentially at risk. In contrast to almost all the other users of these chemicals, CFCs are a large percentage of the final costs for the foam industry.

Different sectors of the foam industry are likely to be affected differently. Indeed, the August 12 rule discussed how several foam sectors were already moving away from CFCs. Foam food packagers have shifted out of CFCs to HCFC-22 or other alternatives. Similarly, the industry sector that makes flexible molded foam has moved out of CFCs with minimal disruption, while the extruded polystyrene board-stock industry intends to eliminate the use of CFC-12 in the near future.

In updating this analysis to examine the other foam sectors, as well as those sectors using carbon tetrachloride and methyl chloroform, the Agency did re-examine the effect of increased price on several foam segments—polyurethane-sprayed and molded foam and foam insulation and board-stock. The insulating foam industry is investigating the use of HCFC-141b or a blend of HCFC-141b and HCFC-123. To the extent that these substitutes are determined to be technically and economically viable, the longer term

impact on these firms will be minimized. The industry is actively pursuing these options and is currently waiting for the results of toxicity studies required for its use of these chemicals.

Based on the analysis contained in the RFA, EPA does not believe that any foam industry segment will be substantially harmed over the long term, and that recent development of alternative blowing agents for use in these sectors indicate the competitiveness of this industry. Sectors using carbon tetrachloride and methyl chloroform are unaffected. In the applications where they are most commonly used, the value of the end product is not significantly related to the price of the chemicals, since they are used only in small volumes. Thus the final costs of industry will not be significantly affected by these regulations.

Under section 605 of the Regulatory Flexibility Act, 5 U.S.C. 605, I certify that the regulation promulgated in this document will not have a significant impact on a substantial number of small entities.

C. Paperwork Reduction Act

As required by § 35.04 of the Paperwork Reduction Act, 44 U.D.C. 3501 *et seq.*, EPA submitted an information collection request to the Office of Management and Budget for review. The recordkeeping and reporting requirements contained in this rulemaking were approved by the Office of Management and Budget under control number 2060–0170.

Industry reporting burden for this collection is estimated in the following table. It includes the time needed to comply with EPA's reporting and compliance monitoring requirements as well as that used for the completion of voluntary reports and requests under this rule.

Respondent activities	Respondent burden per occurrence							
	Frequency	Producer hours	Frequency	Importer hours	Frequency	Exporter hours	Frequency	Transformer hours
Conduct transfer transactions	1	8	1	8	4	8	0	0
Obtain additional allowances through exports	0	0	0	0	4	21	0	0
Convert potential allowances through exports	0	0	0	0	1	42	0	0
Convert potential allowances by receiving allowances from Party countries	1	82	0	0	0	0	0	0
Receive additional allowances for transforming	0	0	0	0	0	0	12	42
Comply with reporting and compliance monitoring requirements	4	88	4	60	4	60	4	32

Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Chief, Information Policy Branch, PM–223y, U.S. Environmental Protection Agency, 401 M St., SW., Washington, DC 20460; and to Paperwork Reduction Project, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

List of Subjects in 40 CFR Part 82

Administrative practice and procedure, Air pollution, Chemicals, Chlorofluorocarbons, Clean Air Act Amendments of 1990, Exports, Imports, Recordkeeping and reporting requirements, Stratospheric ozone layer.

Dated: July 17, 1992.

William K. Reilly,

Administrator.

Title 40, Code of Federal Regulations, part 82, is amended as follows:

PART 82—PROTECTION OF STRATOSPHERIC OZONE

1. The authority citation for part 82 continues to read as follows:

Authority: 42 U.S.C. 7414, 7601, 7671–7671q.

2. Sections 82.14 and 82.20 are removed. Sections 82.1 through 82.13 are designated as subpart A and revised. Appendices A through C and E to part 82 are redesignated as appendices A through C and E to subpart A and revised, and appendix D to part 82 which is currently reserved is redesignated as appendix D to subpart A and reserved. The revised text is set forth below.

Subpart A—Production and Consumption Controls

Sec.

Subpart A—Production and Consumption Controls

§ 82.1 Purpose and scope.

(a) The purpose of these regulations is to implement the Montreal Protocol on Substances that Deplete the Ozone Layer and sections 603, 604, 605, 607 and 616 of the Clean Air Act as amended by the Clean Air Act Amendments of 1990, Public Law 101–549. The Protocol and section 604 impose limits on the production and consumption (defined as production plus imports minus exports) of certain ozone depleting chemicals, according to specified schedules. The Protocol also requires each nation that becomes a Party to the agreement to impose certain restrictions on trade in ozone depleting substances with non-Parties.

(b) This rule applies to any individual, corporate, or governmental entity that

produces, transforms, imports, or exports controlled substances.

§ 82.2 Effective date.

(a) The regulations under this subpart take effect January 1, 1992.

(b) The regulations under this part that were effective prior to January 1, 1992 are saved for purposes of enforcing the provisions that were applicable prior to January 1, 1992.

§ 82.3 Definitions.

As used in this subpart, the term:

(a) *Administrator* means the Administrator of the Environmental Protection Agency or his authorized representative.

(b) *Baseline consumption allowances* means the consumption allowances apportioned under § 82.6 of this subpart.

(c) *Baseline production allowances* means the production allowances apportioned under § 82.5 of this subpart.

(d) *Calculated level* means the weighted amount of a controlled substance determined by multiplying the amount (in kilograms) of the controlled substance by that substance's ozone depletion weight listed in appendix A or appendix B to this subpart.

(e) *Class I* refers to the controlled substances listed in appendix A to this subpart.

(f) *Class II* refers to the controlled substances listed in appendix B to this subpart.

(g) *Consumption allowances* means the privileges granted by this subpart to produce and import class I controlled substances; however, consumption allowances may be used to produce class I controlled substances only in conjunction with production allowances. A person's consumption allowances are the total of the allowances he obtains under § 82.7 of this subpart (baseline allowances for class I controlled substances) and § 82.10 of this subpart (additional consumption allowances), as may be modified under § 82.12 of this subpart (transfer of allowances).

(h) *Control period* means the period from January 1, 1992 through December 31, 1992, and each twelve-month period from January 1 through December 31, thereafter.

(i) *Controlled substance* means any substance listed in appendix A or appendix B to this subpart, whether existing alone or in a mixture, but excluding any such substance or mixture that is in a manufactured product other than a container used for the transportation or storage of the substance or mixture. Any amount of a listed substance which is not part of a use system containing the substance is a controlled substance. If a listed substance or mixture must first be transferred from a bulk container to another container, vessel, or piece of equipment in order to realize its intended use, the listed substance or mixture is a controlled substance. Controlled substances are divided into two classes, class I and class II. Class I substances are further divided into five groups, Group I, Group II, Group III, Group IV and Group V, as set forth in appendix A to this subpart.

(j) *CUBP* means a coincidental unavoidable byproduct of a manufacturing process that is immediately contained and destroyed by the producer using MACT. A substance is CUBP if—

(1) The quantity of the substance generated by the manufacturing process cannot be varied independently of the intended product, varies proportionately with the production of the intended product, and ceases when the intended product's production is stopped; and

(2) It is not manufactured for commercial purposes, including for sale or use in place of substances that otherwise would be purchased.

(k) *Export* means the transport of virgin, used, or recycled controlled substances from inside the United States or its territories to persons outside the United States or its territories, excluding United States military bases and ships for on-board use.

(l) *Exporter* means the person who contracts to sell controlled substances for export or transfers controlled substances to his affiliate in another country.

(m) *Facility* means any process equipment (e.g., reactor, distillation column) used to convert raw materials or feedstock chemicals into controlled substances or consume controlled substances in the production of other chemicals.

(n) *Import* means to land on, bring into, or introduce into, or attempt to land on, bring into, or introduce into any place subject to the jurisdiction of the United States whether or not such landing, bringing, or introduction constitutes an importation within the meaning of the customs laws of the United States, with the following exemptions:

(1) Off-loading used or excess controlled substances from a ship during servicing and

(2) Bringing controlled substances into the U.S. from Mexico where the controlled substance had been admitted into Mexico in bond and was of U.S. origin.

(o) *Importer* means the importer of record listed on U.S. Customs Service forms for imported controlled substances.

(p) *MACT* means, with respect to the destruction of CUBP, maximum available control technology having a destruction efficiency of no less than 99.99%.

(q) *Montreal Protocol* means the Montreal Protocol on Substances that Deplete the Ozone Layer, a protocol to the Vienna Convention for the Protection of the Ozone Layer, including adjustments adopted by the Parties thereto and amendments that have entered into force.

(r) *Nations complying with, but not joining, the Protocol* means any nation listed in appendix D to this subpart.

(s) *Party* means any nation that is a Party to the Montreal Protocol and listed in appendix C to this subpart.

(t) *Person* means any individual or legal entity, including an individual, corporation, partnership, association, State, municipality, political subdivision of a State, Indian tribe; any agency, department, or instrumentality of the United States; and any officer, agent, or employee thereof.

(u) *Plant* means one or more facilities at the same location owned by or under common control of the same person.

(v) *Potential production allowances* means the production allowances obtained under § 82.9(a) of this subpart.

(w) *Production* means the manufacture of a substance from any raw material or feedstock chemical, but does not include:

(1) The manufacture of a substance that is used and entirely consumed (except for trace quantities) in the manufacture of other chemicals or

(2) The reuse or recycling of a substance.

Production includes spilled or vented controlled substances equal to or in excess of one hundred pounds per event.

(x) *Production allowances* means the privileges granted by this subpart to produce controlled substances; however, production allowances may be used to produce controlled substances only in conjunction with consumption allowances. A person's production allowances are the total of the allowances he obtains under § 82.7 of this subpart (baseline allowances for class I controlled substances) and § 82.9(a), (b), and (c) of this subpart (additional production allowances) as may be modified under § 82.12 of this subpart (transfer of allowances).

(y) *Transform* means to use and entirely consume (except for trace quantities) a controlled substance in the manufacture of other chemicals for commercial purposes.

(z) *Unexpended consumption allowances* means consumption allowances that have not been used. At any time in any control period a person's unexpended consumption allowances are the total of the level of consumption allowances he has authorization under this subpart to hold at that time for that control period, minus the level of controlled substances that the person has produced or imported in that control period until that time.

(aa) *Unexpended production allowances* means production allowances that have not been used. At any time in any control period a person's unexpended production allowances are the total of the level of production allowances he has authorization under this subpart to hold at that time for that control period, minus the level of controlled substances that the person has produced in that control period until that time.

§ 82.4 Prohibitions.

(a) No person may produce, at any time in any control period, any class I controlled substance (except for

(1) Group IV controlled substances that are transformed by the end of the first quarter of the following control period, as determined in accordance with paragraph (f) of this section, or

(2) Group IV and V controlled substances for which the person has obtained an exemption in accordance with paragraph (e) of this section) in excess of the amount of unexpended production allowances for that substance held by that person under the authority of this subpart at that time for that control period. In no event may any person produce in the period from July 1, 1991 through December 31, 1992 a total calculated level of Group I controlled substances in excess of 150 percent of that person's baseline production allowances for Group I substances plus any additional production allowances for Group I controlled substances that the person obtained under §§ 82.9 and 82.12 of this subpart during this same period. Every kilogram of excess production constitutes a separate violation of this regulation.

(b) No person may produce or import, at any time in any control period, any class I controlled substance (except for

(1) Group IV controlled substances that are transformed by the end of the first quarter of the following control period as determined in accordance with paragraph (f) of this section, or

(2) Group IV and Group V controlled substances for which the person has obtained an exemption in accordance with paragraph (e) of this section) in excess of the amount of unexpended consumption allowances held by that person under the authority of this subpart at that time for that control period. In no event may any person produce or import in the period from July 1, 1991 through December 31, 1992 a calculated level of Group I controlled substances in excess of 150 percent of that person's baseline consumption allowances plus any consumption allowances for Group I controlled substances that the person obtained under §§ 82.10 and 82.12 of this subpart during this same period. Every kilogram of excess production or importation constitutes a separate violation of this regulation.

(c) A person may not use production allowances to produce a quantity of class I controlled substances (with the exceptions set forth in paragraph (a) of this section) unless he or she holds under the authority of this subpart at the same time consumption allowances sufficient to cover that quantity of class I controlled substances nor may a person use consumption allowances to produce a quantity of class I controlled substances (with the same exceptions noted above) unless the person holds under authority of this subpart at the same time production allowances sufficient to cover that quantity of class I controlled substances. However, only consumption allowances are required to import class I controlled substances (except for Group IV controlled substances that are transformed by the end of the first quarter of the control period following that in which the substance was imported).

(d) No person may import any quantity of Group I or Group II controlled substances from any nation not listed in Appendix C to this subpart (Parties to the Montreal Protocol) unless that nation is listed in appendix D to this subpart (Nations Complying with, But Not Party to, the Protocol). Every kilogram of controlled substances imported in contravention of this regulation constitutes a separate violation of this regulation.

(e) Any person may obtain, in accordance with the provisions of this paragraph, an exemption from the prohibitions set forth in paragraphs (a) and (b) of this section for CUBP Group IV and Group V controlled substances.

(1) A person must submit within 45 days after the beginning of each control period (or by September 14, 1992, for the 1992 control period) during which the person will produce CUBP Group IV and Group V a petition that includes the following:

(i) The identity and address of the person;

(ii) The name and telephone number of a contact person;

(iii) A description of the process of which the class I controlled substance is a by-product and the name of the CUBP produced;

(iv) The name of the primary chemical produced in the process;

(v) A description of the destruction technology to be used, including documentation showing that it has a destruction efficiency of at least 99.99 percent;

(vi) An estimate of the annual amount of production and subsequent destruction of the CUBP controlled substance;

(vii) A description of the handling of the material and a showing that all procedures are consistent with regulations under RCRA or other applicable rules; and

(viii) A statement of whether the process and destruction methods were being used in the baseline year and whether the amounts manufactured were included as "production" in reports submitted for use in the calculation of baseline allowances.

(2) The Administrator will review the information and documentation submitted under paragraph (e)(1) of this section and will issue the person a notice granting the exemption for that amount or portion of Group IV or Group V substance that the Administrator determines is CUBP, provided the request satisfactorily demonstrates that the person's destruction technology is MACT and that the CUBP is handled in a manner consistent with other applicable law and regulations.

(3) If the Administrator determines that the request does not establish that the substances are CUBP or that the destruction technology is MACT and the CUBP is not handled in a manner consistent with other applicable law and regulations, the Administrator will issue a note disallowing the request for the exemption.

(4) The Administrator will adjust the person's baseline allowances if necessary based on the information submitted under paragraph (e)(1) of this section.

(f) Upon receipt of each person's first quarterly report as required under § 82.13 of this subpart, the Administrator will calculate the following quantities for each person that produced Group IV controlled substances for feedstock in the previous control period:

(1) The amount of the person's production transformed in the previous control period;

(2) The amount of the person's production transformed in the first

quarter of the previous control period attributable to the person's production in the control period previous to that;

(3) The amount of the person's production transformed in the first quarter of the current control period; and

(4) The amount that the person produced for transformation in the previous year.

If the Administrator finds that the quantity calculated in paragraph (f)(4) of this section is greater than the sum of the quantities calculated in paragraphs (f)(1) and (f)(3) of this section minus the quantity calculated in paragraph (f)(2) of this section, each kilogram by which the quantity calculated in paragraph (f)(4) of this section is greater, constitutes a separate violation.

§ 82.5 Apportionment of baseline production allowances.

Persons who produced controlled substances in Group I or Group II in 1986 are apportioned baseline production allowances as set forth in paragraphs (a) and (b) of this section. Persons who produced controlled substances in Group III, IV, or V in 1989 are apportioned baseline production allowances as set forth in paragraphs (c), (d), and (e) of this section. Persons who produced class II controlled substances are apportioned baseline production allowances as set forth in paragraph (f) of this section.

(a) For Group I controlled substances:

Controlled substance	Person	Allowances (kg)
CFC-11	Allied-Signal, Inc.	23,082,358
	E.I. DuPont de Nemours & Co.	33,830,000
	Elf Atochem, N.A	21,821,500
	Laroche Chemicals	12,656,364
CFC-12	Allied-Signal, Inc.	35,699,776
	E.I. DuPont de Nemours & Co.	64,849,000
	Elf Atochem, N.A	31,089,807
	Laroche Chemicals	15,330,909
CFC-113	Allied-Signal, Inc.	21,788,896
	E.I. DuPont de Nemours & Co.	58,553,000
CFC-114	Allied-Signal, Inc.	1,488,569
	E.I. DuPont de Nemours & Co.	4,194,000
CFC-115	E.I. Dupont de Nemours & Co.	4,176,000

(b) For Group II controlled substances:

Controlled substance	Person	Allowances (kg)
Halon-1211	Great Lakes Chemical Corp.	826,487
	ICI Americas, Inc.	2,135,484
Halon-1301	E.I. DuPont de Nemours & Co.	3,220,000
	Great Lakes Chemical Corp.	1,766,850
Halon-2402		

(c) For Group III controlled substances:

Controlled substance	Person	Allowances (kg)
CFC-13	Allied-Signal, Inc.	127,125
	E.I. DuPont de Nemours & Co.	187,831
	Elf Atochem, N.A	3,992
	Great Lakes Chemical Corp.	56,381
	Laroche Chemicals	29,025
CFC-111		
CFC-112		
CFC-211	E.I. Dupont de Nemours & Co.	11
CFC-212	E.I. Dupont de Nemours & Co.	11
CFC-213	E.I. Dupont de Nemours & Co.	11
CFC-214	E.I. DuPont de Nemours & Co.	11
CFC-215	E.I. DuPont de Nemours & Co.	511
	Halocarbon Products Corp.	1,270
CFC-216	E.I. DuPont de Nemours & Co.	170,574
CFC-217	E.I. Dupont de Nemours & Co.	511

(d) For Group IV controlled substances:

Controlled substance	Person	Allowances (kg)
CCl_4	Akzo Chemicals, Inc.	7,873,615
	Degussa Corporation	26,546
	Dow Chemical Company, USA.	18,987,747
	E.I. DuPont de Nemours & Co.	9,099
	Hanlin Chemicals-WV, Inc.	219,616
	ICI Americas, Inc.	853,714
	Occidental Chemical Corp.	1,059,358
	Vulcan Chemicals	21,931,987

(e) For Group V controlled substances:

Controlled substance	Person	Allowances (kg)
Methyl Chloroform.	Dow Chemical Company, USA.	168,030,117
	E.I. DuPont de Nemours & Co.	2
	PPG Industries, Inc.	57,450,719
	Vulcan Chemicals	69,689,064

(f) For class II controlled substances: (Reserved)

§ 82.6 Apportionment of baseline consumption allowances.

Persons who produced, imported, or produced and imported controlled substances in Group I or Group II in 1986 are apportioned chemical-specific baseline consumption allowances as set forth in paragraphs (a) and (b) of this section. Persons who produced, imported, or produced and imported controlled substances in Group III, Group IV, or Group V in 1989 are apportioned chemical-specific baseline consumption allowances as set forth in paragraphs (c), (d) and (e) of this section. Persons who produced, imported, or produced and imported class II chemicals are apportioned chemical-specific baseline consumption allowances set forth in paragraph (f) of this section.

(a) For Group I controlled substances:

Controlled substance	Person	Allowances (kg)
CFC-11	Allied-Signal, Inc.	22,683,833
	E.I. DuPont de Nemours & Co.	32,054,283
	Elf Atochem, N.A	21,740,194
	Hoechst Celanese Corporation.	185,396
	ICI Americas, Inc.	1,673,436
	Kali-Chemie Corporation.	82,500
	Laroche Chemicals	12,695,726
	National Refrigerants, Inc.	693,707
	Refricentro, Inc.	160,697
	Sumitomo Corporation of America.	5,800
CFC-12	Allied-Signal, Inc.	35,236,397
	E.I. Dupont de Nemours & Co.	61,096,726
	Elf Atochem, N.A	32,403,869
	Hoechst Celanese Corporation.	138,865
	ICI Americas, Inc.	1,264,980
	Kali-Chemie Corporation.	355,440
	Laroche Chemicals	15,281,553
	National Refrigerants, Inc.	2,375,364
	Refricentro, Inc.	242,526
CFC-1113	Allied-Signal, Inc.	18,241,928
	E.I. Dupont de Nemours & Co.	49,602,858
	Elf Atochem, N.A	244,908
	Holchem	265,199
	ICI Americas, Inc.	2,399,700
	Refricentro, Inc.	37,385
	Sumitomo Corporation of America.	280,163
CFC-114	Allied-Signal, Inc.	1,429,582
	E.I. Dupont de Nemours & Co.	3,686,103
	Elf Atochem, N.A	22,880
	ICI Americas, Inc.	32,930
CFC-115	E.I. DuPont de Nemours & Co.	2,764,109
	Elf Atochem, N.A	633,007
	Hoechst Celanese Corporation.	8,893
	ICI Americas, Inc.	2,366,351
	Laroche Chemicals	135,520
	Refricentro, Inc.	27,337

(b) For Group II controlled substances:

Controlled substance	Person	Allowances (kg)
Halon-1211	Elf Atochem, N.A	411,292
	Great Lakes Chemical Corp.	772,775
	ICI Americas, Inc	2,116,641
	Kali-Chemie Corporation.	330,000
Halon-1301	E.I. DuPont de Nemours & Co.	2,772,917
	Elf Atochem, N.A	89,255
	Great Lakes Chemical Corp..	1,744,132
	Kali-Chemie Corporation.	54,380
Halon-2402	Ausimont	34,400
	Great Lakes Chemical Corp.	15,900

(c) For Group III controlled substances:

Controlled substance	Person	Allowances (kg)
CFC-13	Allied-Signal, Inc	127,124
	E.I. DuPont de Nemours & Co.	158,508
	Elf Atochem, N.A	3,992
	Great Lakes Chemical Corp.	56,239
	ICI Americas, Inc	5,855
	Laroche Chemicals	29,025
	National Refrigerants, Inc.	16,665
CFC-111		
CFC-112	Sumitomo Corporation of America.	5,912
	TG (USA) Corporation.	9,253
CFC-211	E.I. DuPont de Nemours & Co.	11
CFC-212	E.I. DuPont de Nemours & Co.	11
CFC-213	E.I. DuPont de Nemours & Co.	11
CFC-214	E.I. DuPont de Nemours & Co.	11
CFC-215	E.I. DuPont de Nemours & Co.	511
	Halocarbon Products Corp.	1,270
CFC-216	E.I. DuPont de Nemours & Co.	170,574
CFC-217	E.I. Dupont de Nemours & Co.	511

(d) For Group IV controlled substances:

Controlled substance	Person	Allowances (kg)
CCl_4	Crescent Chemical Co.	56
	Degussa Corporation.	12,466
	Dow Chemical Company, USA.	8,170,561
	E.I. DuPont de Nemours & Co.	26,537
	Elf Atochem, N.A	41
	Hanlin Chemicals-WV, Inc.	103,133
	Hoechst Celanese Corporation.	3
	ICC Chemical Corp	1,173,723
	ICI Americas, Inc	855,466
	Occidental Chemical Corp.	497,478
	Sumitomo Corporation of America.	9

(e) For Group V controlled substances:

Controlled substance	Person	Allowances (kg)
Methyl Chloroform	3V Chemical Corp	3,528
	Actex, Inc	50,171
	Atochem North America.	74,355
	Dow Chemical Company, USA.	125,200,200
	E.I. DuPont de Nemours & Co.	2
	IBM	2,026
	ICI Americas, Inc	14,179,850
	Laidlaw	420,207
	PPG Industries	45,254,115
	Sumitomo	1,954
	TG (USA) Corporation.	7,073
	Unitor Ships Service, Inc.	14,746
	Vulcan Chemicals	70,765,072

(f) For class II controlled substances: (Reserved)

§ 82.7 Grant and phased reduction of baseline production and consumption allowances for class I controlled substances.

For each control period specified in the following table, each person is granted the specified percentage of the baseline production and consumption allowances apportioned to him under §§ 82.5 and 82.6 of this subpart.

Date	Group IV (%)	Group V (%)	Other class I substances %
1992	90	100	80
1993	80	90	75
1994	70	85	65
1995	15	70	50
1996	15	50	40
1997	15	50	15
1998	15	50	15
1999	15	50	15
2000	0	20	0
2001	0	20	0
2002 and each year thereafter	0	0	0

§ 82.8 Grant and freeze of baseline production and consumption allowances for class II controlled substances. [Reserved]

§ 82.9 Availability of production allowances in addition to baseline production allowances.

(a) Every person apportioned baseline production allowances for class I controlled substances under § 82.5(a) of this subpart is also granted potential production allowances equal to:

(1) 10 percent of his apportionment under § 82.5 of this subpart for each control period ending before January 1, 2000; and

(2) 15 percent of his apportionment under § 82.5 of this subpart for each control period beginning after December 31, 1999 and ending before January 1, 2011 (January 1, 2013 in the case of methyl chloroform).

A person may convert potential production allowances, either granted under this paragraph or obtained under § 82.12 (transfer of allowances), to production allowances only to the extent authorized by the Administrator under § 82.11 of this subpart (Exports to Article 5 Parties). A person may obtain authorizations to convert potential production allowances to production allowances by requesting issuance of a notice under § 82.11 of this subpart or by completing a transfer of authorizations under § 82.12 of this subpart.

(b) A company may also increase or decrease its production allowances by trading with another Party to the Protocol. A nation listed in appendix C to this subpart (Parties to the Montreal Protocol) must agree either to transfer to the person some amount of production that the nation is permitted under the Montreal Protocol or to receive from the person some amount of production that the person is permitted under this subpart.

(1) For trades from a Party, the person must obtain from the principal diplomatic representative in that nation's embassy in the United States a signed document stating that the appropriate authority within that nation has established or revised production limits for the nation to equal the lesser of the maximum production that the nation is allowed under the Protocol minus the amount transferred, the maximum production that is allowed under the nation's applicable domestic law minus the amount transferred, or the average of the nation's actual national production level for the three years prior to the transfer minus the production allowances transferred. The person must submit to the Administrator a transfer request that includes a true copy of this document and that sets forth the following:

(i) The identity and address of the person;

(ii) The identity of the Party;

(iii) The names and telephone numbers of contact persons for the person and for the Party;

(iv) The chemical type and level of production being transferred; and

(v) The control period(s) to which the transfer applies.

(2) For trades to a Party, a person must submit a transfer request that sets forth the following:

(i) The identity and address of the person;

(ii) The identity of the Party;

(iii) The names and telephone numbers of contact persons for the person and for the Party;

(iv) The chemical type and level of allowable production to be transferred; and

(v) The control period(s) to which the transfer applies.

(3) After receiving a transfer request that meets the requirements of paragraph (b)(2) of this section, the Administrator may, at his discretion, consider the following factors in deciding whether to approve such a transfer:

(i) Possible creation of economic hardship;

(ii) Possible effects on trade;

(iii) Potential environmental implications; and

(iv) The total amount of unexpended production allowances held by United States entities.

(4) The Administrator will issue the person a notice either granting or deducting production allowances and specifying the control periods to which the transfer applies, provided that the request meets the requirement of paragraph (b)(1) of this section for trades from Parties and paragraphs (b)(2) of this section for trades to Parties, unless the Administrator has decided to disapprove the trade under paragraph (b)(3) of this section for trades to Parties. For a trade from a Party, the Administrator will issue a notice that revises the production allowances held by the person to equal the unexpended production allowances held by the person under this subpart plus the level of allowable production transferred from the Party. For a trade to a Party, the Administrator will issue a notice that revises the production limit for the person to equal the lesser of:

(i) The unexpended production allowances held by the person under this subpart minus the amount transferred; or

(ii) The unexpended production allowances held by the person under this subpart minus the amount by which the United States average annual production of the controlled substance being traded for the three years prior to the transfer is less than the total allowable production allowable for that substance under this subpart minus the amount transferred.

The change in production allowances will be effective on the date that the notice is issued.

(5) If after one person obtains approval for a trade of allowable production of a controlled substance to a Party, one or more other persons obtain approval for trades involving the same controlled substance and the same control period, the Administrator will issue notices revising the production limits for each of the other persons trading that controlled substance in that control period to equal the lesser of:

(i) The unexpended production allowances held by the person under this subpart minus the amount transferred; or

(ii) The unexpended production allowances held by the person under this subpart minus (the amount by which the United States average annual production of the controlled substance being traded for the three years prior to the transfer is less than the total allowable production for that substance under this subpart) multiplied by the amount transferred divided by (the total amount transferred by all the other persons trading the same controlled substance in the same control period) minus the amount transferred by that person.

The Administrator will also issue a notice revising the production limit for each person who previously obtained approval of a trade of that substance in that control period to equal the unexpended production allowances held by the person under this subpart plus the amount by which the United States average annual production of the controlled substance being traded for the three years prior to the transfer is less than the total allowable production under this subpart multiplied by the amount transferred by that person divided by (the amount transferred by all of the persons that have traded that controlled substance in that control period). The change in production allowances will be effective on the date that the notice is issued.

(c) A person who does not produce a controlled substance in Group I, II, III or V may obtain production allowances for that controlled substance equal to the amount of that controlled substance produced in the United States that the person transforms in accordance with the provisions of this paragraph. A request for production allowances under this section will be considered a request for consumption allowances under § 82.10(b) of this subpart.

(1) A person must submit a request for production allowances that includes the following:

(i) The identity and address of the person;

(ii) The name, quantity, and level of class I controlled substance transformed;

(iii) A copy of the invoice or receipt documenting the sale of the class I controlled substance to the person;

(iv) The name of the person from whom the class I controlled substances were purchased; and

(v) The name, quantity, and verification of the commercial use of the resulting chemical.

(2) The Administrator will review the information and documentation submitted under paragraph (c)(1) of this section and will assess the quantity of class I controlled substance that the documentation and information verifies was transformed. The Administrator will issue the person production allowances equivalent to the controlled substances that the Administrator determined were transformed. The grant of allowances will be effective on the date that the notice is issued.

(3) If the Administrator determines that the request for production allowances does not satisfactorily substantiate that the person transformed controlled substances as claimed, the Administrator will issue a notice disallowing the request for additional production allowances. Within ten working days after receipt of notification, the Party may file a notice of appeal, with supporting reasons, with the Administrator. The Administrator may affirm the disallowance or grant an allowance, as he finds appropriate in light of the available evidence.

§ 82.10 Availability of consumption allowances in addition to baseline consumption allowances.

(a) Any person may obtain, in accordance with the provisions of this paragraph. consumption allowances equivalent to the level of class I controlled substances that the person has exported from the United States and its territories to any nation listed in Appendix C to this subpart (Parties to the Montreal Protocol). The consumption allowance granted under this section will be valid only during the control period in which the exports departed the United States or its territories.

(1) The exporter of the class I controlled substances must submit to the Administrator a request for consumption allowances setting forth the following:

(i) The identities and addresses of the exporter and the recipient of the exports;

(ii) The exporter's Employer Identification Number;

(iii) The names and telephone numbers of contact persons for the exporter and the recipient;

(iv) The quantity and type of controlled substances exported, and what percentage, if any, of the controlled substances are recycled or used;

(v) The source of the controlled substance and the date purchased;

(vi) The date on which and the port from which the controlled substances were exported from the United States or its territories;

(vii) The country to which the controlled substances were exported;

(viii) The bill of lading and the invoice indicating the net quantity of controlled substances shipped and documenting the sale of the controlled substances to the purchaser; and

(ix) The commodity code of the controlled substance exported.

(2) The Administrator will review the information and documentation submitted under paragraph (a)(1) of this section, and will assess the quantity of controlled substances that the documentation verifies was exported. The Administrator will issue the exporter consumption allowances equivalent to the level of controlled substances that the Administrator determined was exported. The grant of the consumption allowances will be effective on the date the notice is issued.

(b) A person who does not produce a class I controlled substance in Group I, II, III or V may obtain consumption allowances for that controlled substance equal to the level of a controlled substance either produced in or imported into the United States that the person transformed in accordance with the provisions of this paragraph.

(1) A person must submit a request for consumption allowances that includes the following:

(i) The identity and address of the person;

(ii) The name and quantity of controlled substance used and entirely consumed in the manufacture of another chemical;

(iii) A copy of the invoice or receipt documenting the sale of the controlled substance to the person; and

(iv) The name, quantity, and verification of the commercial use of the resulting chemical.

(2) The Administrator will review the information and documentation submitted under paragraph (b)(1) of this section and will assess the quantity of controlled substance that the documentation and information verifies was transformed. The Administrator will issue to the person consumption allowances equivalent to the level of controlled substances that the Administrator determined was transformed. The grant of allowances will be effective on the date that the notice is issued.

(3) If the Administrator determines that the request for consumption allowances does not satisfactorily substantiate that the person transformed controlled substances as claimed, the Administrator will issue a notice disallowing the request for additional consumption allowances. Within ten working days after receipt of notification, the Party may file a notice of appeal, with supporting reasons, with the Director, Office of Atmospheric and Indoor Air Programs, Office of Air and Radiation. The Director may affirm or vacate the disallowance. If no appeal is taken by the tenth day after notification, the disallowance will be final on that day.

(c) On the first day of each control period the Agency will grant consumption allowances to any person that produced and exported a Group IV controlled substance in the baseline year and that was not granted baseline consumption allowances under § 82.5 of this subpart.

(1) The number of consumption allowances any such person will be granted for each control period will be equal to the number of production allowances granted to that person under § 82.7 for that control period.

(2) Any person granted allowances under this paragraph must hold the same number of unexpended consumption allowances for the control period for which the allowances were granted by February 15 of the following control period. Every kilogram by which the person's unexpended consumption allowances fall short of the amount the person was granted under this paragraph constitutes a separate violation.

§ 82.11 Exports to Article 5 Parties.

In accordance with the provisions of this section, any person may obtain authorizations to convert potential production allowances to production allowances by exporting class I controlled substances to nations listed in appendix E to this subpart (Article 5 Parties). Authorizations obtained under this section will be valid only during the control period in which the controlled substance departed the United States or its territories. A request for authorizations under this section will be considered a request for consumption allowances under § 82.10 of this subpart as well.

(a) The exporter must submit to the Administrator a request for authority to convert potential production allowance to production allowances. That request must set forth the following:

(1) The identities and addresses of the exporter and the recipient of the exports;

(2) The exporter's Employee Identification Number;

(3) The names and telephone numbers of contact persons for the exporter and for the recipient;

(4) The quantity and the type of controlled substances exported, its source and date purchased, and what percentage, if any, of the controlled substances are recycled or used;

(5) The date on which and the port from which the controlled substances were exported from the United States or its territories;

(6) The country to which the controlled substances were exported;

(7) A copy of the bill of lading and invoice indicating the net quantity

shipped and documenting the sale of the controlled substances to the recipient;

(8) The commodity code of the controlled substance exported; and

(9) A copy of the contract covering the sale of the controlled substances to the recipient that contains provisions forbidding the reexport of the controlled substance in bulk form and subjecting the recipient or any transferee of the recipient to liquidated damages equal to the resale price of the controlled substances if they are reexported in bulk form.

(b) The Administrator will review the information and documentation submitted under paragraph (a) of this section, and assess the quantity of controlled substances that the documentation verifies were exported to an Article 5 Party. Based on that assessment, the Administrator will issue the exporter a notice authorizing the conversion of a specified quantity of potential production allowances to production allowances in a specified control year, and granting consumption allowances in the same amount for the same control year. The authorizations may be used to convert potential production allowances to production allowances as soon as the date on which the notice is issued.

§ 82.12 Transfers.

(a) *Inter-company transfers.* Any person ("transferor") may transfer to any other person ("transferee") any amount of the transferor's consumption allowances, production allowances, potential production allowances, or authorizations to convert potential production allowances to production allowances, as follows:

(1) The transferor must submit to the Administrator a transfer claim setting forth the following:

(i) The identities and addresses of the transferor and the transferee;

(ii) The name and telephone numbers of contact persons for the transferor and the transferee;

(iii) The type of allowances or authorizations being transferred, including the names of the controlled substances for which allowances are to be transferred;

(iv) The group of controlled substances to which the allowances or authorizations being transferred pertains;

(v) The amount of allowances or authorizations being transferred;

(vi) The control period(s) for which the allowances or authorizations are being transferred;

(vii) The amount of unexpended allowances or authorizations of the type and for the control period being transferred that the transferor holds under authority of this subpart as of the date the claim is submitted to EPA; and

(viii) A statement of whether the trade is for the purpose of reimbursing a producer or importer for allowances expended in the production or import of transformed controlled substances; and

(ix) The amount of the one-percent offset applied to the unweighted amount traded that will be deducted from the transferor's allowance balance (except for trades of potential production allowances, authorizations to convert, or trades from transformers to producers or importers for the purpose of allowance reimbursement).

(2) The Administrator will determine whether the records maintained by EPA, taking into account any previous transfers and any production, imports or exports of controlled substances reported by the transferor, indicate that the transferor possesses, as of the date the transfer claim is processed, unexpended allowances or authorizations sufficient to cover the transfer claim (i.e., the amount to be transferred plus, in the case of transferors of production or consumption allowances), one percent of that amount). Within three working days of receiving a complete transfer claim, the Administrator will take action to notify the transferor and transferee as follows:

(i) If EPA's records show that the transferor has sufficient unexpended allowances or authorizations to cover the transfer claim or if review of available information is insufficient to make a determination, the Administrator will issue a notice indicating that EPA does not object to the transfer and will reduce the transferor's balance of unexpended allowances or authorizations by the amount to be transferred plus, in the case of transfers of production or consumption allowances, one percent of that amount. When EPA issues a no objection notice, the transferor and the transferee may proceed with the transfer. However, if EPA ultimately finds that the transferor did not have sufficient unexpended allowances or authorizations to cover the claim, the transferor and transferee will be held liable for any violations of the regulations of this subpart that occur as a result of, or in conjunction with, the improper transfer.

(ii) If EPA's records show that the transferor has insufficient unexpended allowances or authorizations to cover the transfer claim, or that the transferor has failed to respond to one or more Agency requests to supply information needed to make a determination, the Administrator will issue a notice disallowing the transfer. Within 10 working days after receipt of notification, either party may file a notice of appeal, with supporting reasons, with the Administrator. The Administrator may affirm or vacate the disallowance. If no appeal is taken by the tenth working day after notification, the disallowance shall be final on that day.

(3) In the event that the Administrator does not respond to a transfer claim within the three working days specified in paragraph (b)(2) of this section, the transferor and transferee may proceed with the transfer. EPA will reduce the transferor's balance of unexpended allowances or authorizations by the amount to be transferred plus, in the case of transfers of production or consumption allowances, one percent of that amount. However, if EPA ultimately finds that the transferor did not have sufficient unexpended allowances or authorizations to cover the claim, the transferor and transferee will be held liable for any violations of the regulations of this subpart that occur as a result of, or in conjunction with, the improper transfer.

(b) *Inter-pollutant conversions.* Any person ("convertor") may convert consumption allowances, production allowances, potential production allowances, or authorizations to convert potential production allowances to production allowances for one class I controlled substance to the same type of allowance for another class I controlled substance within the group of controlled substances as the first as follows:

(1) The convertor must submit to the Administrator a conversion claim setting forth the following:

(i) The identity and address of the convertor;

(ii) The name and telephone number of a contact person for the convertor;

(iii) The type of allowances or authorizations being converted, including the names of the controlled substances for which allowances are to be converted;

(iv) The group of controlled substances to which the allowances or authorizations being converted pertains;

(v) The amount and type of allowances to be converted;

(vi) The amount of allowances to be subtracted from the convertor's unexpended allowances for the first controlled substance, to be equal to 101 percent of the amount of allowances converted (except for conversions of authorizations to convert potential production allowances and conversions of potential production allowances);

(vii) The amount of allowances or authorizations to be added to the convertor's unexpended allowances or authorizations for the second controlled substance, to be equal to the amount of allowances for the first controlled substance being converted multiplied by the quotient of the ozone depletion factor of the first controlled substance divided by the ozone depletion factor of the second controlled substance, as listed in appendix A to this subpart.

(viii) The control period(s) for which the allowances or authorizations are being converted; and

(ix) The amount of unexpended allowances or authorizations of the type and for the control period being converted that the convertor holds under authority of this subpart as of the date the claim is submitted to EPA.

(2) The Administrator will determine whether the records maintained by EPA, taking into account any previous conversions, any transfers, and any production, imports, or exports of controlled substances reported by the convertor, indicate that the convertor possesses, as of the date the conversion claim is processed, unexpended allowances or authorizations sufficient to cover the conversion claim (i.e., the amount to be converted plus, in the case of conversions of production or consumption allowances, one percent of that amount). Within three working days of receiving a complete conversion claim, the Administrator will take action to notify the convertor as follows:

(i) If EPA's records show that the convertor has sufficient unexpended allowances or authorizations to cover the conversion claim or if review of available information is insufficient to make a determination, the Administrator will issue a notice indicating that EPA does not object to the conversion and will reduce the convertor's balance of unexpended allowances or authorizations by the amount to be converted plus, in the case of conversions of production or consumption allowances, one percent of that amount. When EPA issues a no objection notice, the convertor may proceed with the conversion. However, if EPA ultimately finds that the convertor did not have sufficient unexpended allowances or authorizations to cover the claim, the convertor will be held liable for any violations of the regulations of this subpart that occur as a result of, or in conjunction with, the improper conversion.

(ii) If EPA's records show that the convertor has insufficient unexpended allowances or authorizations to cover the conversion claim, or that the convertor has failed to respond to one or more Agency requests to supply information needed to make a determination, the Administrator will issue a notice disallowing the conversion. Within 10 working days after receipt of notification, the convertor may file a notice of appeal, with supporting reasons, with the Administrator. The Administrator may affirm or vacate the disallowance. If no appeal is taken by the tenth working day after notification, the disallowance shall be final on that day.

(3) In the event that the Administrator does not respond to a conversion claim within the three working days specified in paragraph (b)(2) of this section, the convertor may proceed with the conversion. EPA will reduce the convertor's balance of unexpended allowances by the amount to be converted plus, in the case of conversions of production or consumption allowances, one percent of that amount. However, if EPA ultimately finds that the convertor did not have sufficient unexpended allowances or authorizations to cover the claims, the convertor will be held liable for any violations of the regulations of this subpart that occur as a result of, or in conjunction with, the improper conversion.

(c) *Inter-company transfers and Inter-pollutant conversions.* If a person requests an inter-company transfer and an inter-pollutant conversion simultaneously, the amount subtracted from the convertor-transferor's unexpended allowances for the first controlled substance will be equal to 101 percent of the amount of allowances converted and transferred in the case of transfer-conversions of production or consumption allowances.

§ 82.13 Record-keeping and reporting requirements.

(a) Unless otherwise specified, the record-keeping and reporting requirements set forth in this section take effect on January 1, 1992.

(b) Reports and records required by this section may be used for purposes of compliance determinations. These requirements are not intended as a limitation on the use of other evidence admissible under the Federal Rules of Evidence.

(c) Unless otherwise specified, reports required by this section must be mailed to the Administrator within 45 days of the end of the applicable reporting period.

(d) Records and copies of reports required by this section must be retained for three years.

(e) In reports required by this section, quantities of controlled substances must be stated in terms of kilograms.

(f) Every person ("producer") who will produce class I controlled substances during a control period must comply with the following record-keeping and reporting requirements:

(1) Within 120 days of July 30, 1992, or within 120 days of the date the producer first produces a class I controlled substance, whichever is later, every producer that has not already done so must submit to the Administrator a report describing:

(i) The method by which the producer in practice measures daily quantities of class I controlled substances produced;

(ii) Conversion factors by which the daily records as currently maintained can be converted into kilograms of controlled substances produced, including any constants or assumptions used in making those calculations (e.g., tank specifications, ambient temperature or pressure, density of the controlled substance);

(iii) Internal accounting procedures for determining plant-wide production;

(iv) The quantity of any fugitive losses accounted for in the production figures; and

(v) The estimated percent efficiency of the production process for the controlled substance.

Within 60 days of any change in the measurement procedures or the information specified in the above report, the producer must submit a report specifying the revised data or procedures to the Administrator.

(2) Every person that produced class I controlled substances as by-products and did not destroy them with MACT in 1989 but did not report this production in response to previous information request must supply EPA with the information previously requested on or before September 14, 1992.

(3) Every producer must maintain the following:

(i) Dated records of the quantity of each of the class I controlled substances produced at each facility;

(ii) Dated records of the quantity of Group IV class I controlled substances produced for feedstock use at each facility;

(iii) Dated records of the quantity of class I controlled substances used as feedstocks in the manufacture of controlled substances and in the manufacture of non-controlled substances and any class I controlled substance introduced into the production process of the same controlled substance at each facility;

(iv) Dated records identifying the quantity of each chemical not a controlled substance produced within each facility also producing one or more class I controlled substances;

(v) Dated records of the quantity of raw materials and feedstock chemicals used at each facility for the production of controlled substances;

(vi) Dated records of the shipments of class I controlled substances produced at each plant;

(vii) The quantity of class I controlled substances, the date received, and names and addresses of the source of recyclable or recoverable materials containing class I controlled substances which are recovered at each plant;

(viii) Records of the date, the class I controlled substance, and the estimated quantity of any spill or release of a class I controlled substance that equals or exceeds 100 pounds; and

(ix) Dated records documenting the sale of Group IV controlled substances for feedstock.

(4) For each quarter, each producer must provide the Administrator with a report containing the following information:

(i) The production by plant in that quarter of each class I controlled substance, specifying the quantity of any class I controlled substance used for feedstock purposes for controlled and noncontrolled substances for each plant and totaled by class I controlled substance for all plants owned by the producer;

(ii) The amount of production for feedstock of Group IV controlled substances, by plant;

(iii) The levels of production (expended allowances) for all class I controlled substances for each plant and totaled for all plants for that quarter and totaled for the control period to date;

(iv) From each plant, the total shipments of each class I controlled substance produced at that plant in the quarter;

(v) The producer's total of expended and unexpended consumption allowances, potential production allowances, production allowances, and authorizations to convert potential production allowances to production allowances, as of the end of that quarter;

(vi) The quantity, the date received, and names and addresses of the source of recyclable or recoverable materials containing the class I controlled substance which are recovered at each plant;

(vii) The amount of Group IV controlled substances sold to each person for feedstock during the quarter; and

(viii) Internal Revenue Service Certificates showing that the purchaser of Group IV controlled substances for feedstock use intends to transform the Group IV controlled substances.

(5) For any person who fails to maintain the records required by this paragraph, or to submit the report required by this paragraph, the Administrator may assume that the person has produced at full capacity during the period for which records were not kept, for purposes of determining whether the person has violated the prohibitions at § 82.4 of this subpart.

(g) Importers of class I controlled substances during a control period must comply with the following record-keeping and reporting requirements:

(1) Any importer must maintain the following records:

(i) The quantity of each class I controlled substance imported, either alone or in mixtures, including the percentage of the mixture which consists of class I controlled substances;

(ii) The date on which the controlled substances were imported;

(iii) The port of entry through which the controlled substances passed;

(iv) The country from which the imported controlled substances were imported;

(v) The port of exit;

(vi) The commodity code for the controlled substances shipped;

(vii) The importer number for the shipment;

(viii) A copy of the bill of lading for the import;

(ix) The invoice for the import;

(x) The U.S. Customs Entry Summary Form; and

(xi) Dated records documenting the sale of Group IV controlled substances for feedstock.

(2) For each quarter, every importer must submit to the Administrator a report containing the following information:

(i) Summaries of the records required in paragraphs (g)(1) (i) through (vii) of this section for the previous quarter;

(ii) The total quantity imported in kilograms of each class I controlled substance for that quarter;

(iii) The levels of import (expended consumption allowances) of class I controlled substances for that quarter and totaled by chemical for the control-period-to-date; and

(iv) The importer's total sum of expended and unexpended consumption allowances by chemical as of the end of that quarter;

(v) The amount of Group IV controlled substances imported for feedstock during the quarter;

(vi) The amount of Group IV controlled substances sold to each person for feedstock during the quarter; and

(vii) Internal Revenue Service Certificates showing that the purchaser of Group IV controlled substances for feedstock use intends to transform the Group IV controlled substances.

(h) For any exports of class I controlled substances not reported under § 82.10 of this subpart (additional consumption allowances) or § 82.11 of this subpart (Exports to Parties), the exporter who exported the class I controlled substances must submit to the Administrator the following information within 45 days after the end of the control period in which the unreported exports left the United States:

(1) The names and addresses of the exporter and the recipient of the exports;

(2) The exporter's Employee Identification Number;

(3) The type and quantity of class I controlled substances exported and what percentage, if any, of the controlled substances are recycled or used;

(4) The date on which and the port from which the controlled substances were exported from the United States or its territories;

(5) The country to which the controlled substances were exported; and

(6) The commodity code of the controlled substance shipped.

(i) Every person who has requested additional production allowances under § 82.9(c) of this subpart or consumption allowances under § 82.10(c) of this subpart or who transforms Group IV controlled substances not produced by him or her must maintain the following:

(1) Dated records of the quantity and level of controlled substance used and entirely consumed in the manufacture of another chemical;

(2) Copies of the invoices or receipts documenting the sale of the controlled substance to the person;

(3) Dated records of the names, commercial use, and quantities of the resulting chemical(s);

(4) Dated records of shipments to purchasers of the resulting chemical(s);

(5) For transformers of Group IV controlled substances, dated records of all shipments of Group IV controlled substances received and the identity of the producer or importer of the Group IV controlled substances; and

(6) For transformers of Group IV controlled substances, dated records inventories of Group IV controlled

substances at each plant on the first day of each quarter.

(j) For every quarter, within 45 days after the end of the quarter, every person who transforms Group IV chemicals not produced by him or her must report the following:

(1) The name and address of the person and the name and telephone number of a contact person;

(2) The names and addresses of the persons that produced or imported the Group IV controlled substances that he or she has purchased and transformed and the name and telephone number of a contact person;

(3) The address of the facility at which the transformation took place;

(4) The name of the chemical produced as a result of the transformation and the verification of its commercial use; and

(5) By source in paragraph (j)(2) of this section, the amounts of Group IV controlled substances transformed by the person.

(k) For every control period, every person receiving an exemption for CUBP controlled substances in Groups IV and V must maintain the following information on site:

(1) Dated records of the quantity of the CUBP carbon tetrachloride and methyl chloroform produced at the facility; and

(2) Dated records of the quantity of the CUBP controlled substance destroyed at the facility or shipped from there to an off-site destruction facility.

(l) Every person who produces, imports, or exports class II chemicals must report its annual level of production, imports, and exports of these chemicals within 45 days of the end of each control period.

Appendix A to Subpart A—Class I Controlled Substances

Controlled substance	Ozone depletion weight
A. Group I	
$CFCl_3$—Trichlorofluoromethane (CFC-11)	1.0
CCl_2F_2—Dichlorodifluoromethane (CFC-12)	1.0
CCl_2F-$CClF_2$—Trichlorotrifluoroethane (CFC-113)	0.8
CF_2Cl-$CClf_2$—Dichlorotetrafluoroethane (CFC-114)	1.0
$CClF_2$-CF_3—(Mono) chloropentafluoroethane (CFC-115)	0.6
All isomers of the above chemicals	
B. Group II	
CF_2BrCl—Bromochlorodifluoromethane (halon 1211)	3.0
CF_3Br—Bromotrifluoromethane (halon 1301)	10.0
$C_2F_4Br_2$—Dibromotetrafluoroethane (halon 2402)	6.0
All isomers of the above chemicals	
C. Group III	
CF_3Cl—Chlorotrifluoromethane (CFC-13)	1.0
C_2FCl_5 (CFC-111)	1.0
$C_2F_2Cl_4$—(CFC-112)	1.0
C_3FCl_7—(CFC-211)	1.0
$C_3F_2Cl_6$—(CFC-212)	1.0
$C_3F_3Cl_5$—(CFC-213)	1.0
$C_3F_4Cl_4$—(CFC-214)	1.0
$C_3F_5Cl_3$—(CFC-215)	1.0
$C_3F_6Cl_2$—(CFC-216)	1.0
C_3F_7Cl—(CFC-217)	1.0
All isomers of the above chemicals	
D. Group IV	
CCl_4—Carbon Tetrachloride	1.1
E. Group V	
$C_2H_3Cl_3$—1,1,1-Trichloroethane (Methyl chloroform)	.1
All isomers of the above chemical, except for 1,1,2-trichloroethane.	

Appendix B to Subpart A—Class II Controlled Substances

$CHFCl_2$-Dichlorofluoromethane (HCFC-21)	(1)
CHF_2Cl-Chlorodifluoromethane (HCFC-22)	0.05
CH_2FCl-Chlorofluoromethane (HCFC-31)	(1)
C_2HFCl_4-(HCFC-121)	(1)
$C_2HF_2Cl_3$ (HCFC-122)	(1)
$C_2HF_3Cl_2$-(HCFC-123)	0.02
C_2HF_4Cl-(HCFC-124)	0.02
$C_2H_2FCl_3$-(HCFC-131)	(1)
$C_2H_2F_2Cl_2$-(HCFC-132b)	(1)
$C_2H_2F_3Cl$-(HCFC-133a)	(1)
$C_2H_3FCl_2$-(HCFC-141b)	0.12
$C_2H_3F_2Cl$-(HCFC-142b)	0.06
C_3HFCl_6-(HCFC-221)	(1)
$C_3HF_2Cl_5$-(HCFC-222)	(1)
$C_3HF_3Cl_4$-(HCFC-223)	(1)
$C_3HF_4Cl_3$-(HCFC-224)	(1)
$C_3HF_5Cl_2$-(HCFC-225ca)	(1)
(HCFC-225cb)	(1)
C_3HF_6Cl-(HCFC-226)	(1)
$C_3H_2FCl_5$-(HCFC-231)	(1)
$C_3H_2F_2Cl_4$-(HCFC-232)	(1)
$C_3H_2F_3Cl_3$-(HCFC-233)	(1)
$C_3H_2F_4Cl_2$-(HCFC-234)	(1)
$C_3H_2F_5Cl$-(HCFC-235)	(1)
$C_3H_3FCl_4$-(HCFC-241)	(1)
$C_3H_3F_2Cl_3$-(HCFC-242)	(1)
$C_3H_3F_3Cl_2$-(HCFC-243)	(1)
$C_3H_3F_4Cl$-(HCFC-244)	(1)
$C_3H_4FCl_3$-(HCFC-251)	(1)
$C_3H_4F_2Cl_2$-(HCFC-252)	(1)
$C_3H_4F_3Cl$-(HCFC-253)	(1)
$C_3H_5FCl_2$-(HCFC-261)	(1)
$C_3H_5F_2Cl$-(HCFC-262)	(1)
C_3H_6FCl-(HCFC-271)	(1)
All isomers of the above chemicals	(1)

(1) Reserved.

Appendix C to Subpart A—Parties to the Montreal Protocol

Parties to the Montreal Protocol: Argentina, Australia, Austria, Bahrain, Bangladesh, Belgium, Botswana (3/3/92), Brazil, Bulgaria, Burkina Faso, Byelorussian Soviet Socialist Republic, Cameroon, Canada, Chile, China, Costa Rica, Cyprus (8/26/92), Czechoslovakia, Denmark, Ecuador, Egypt, European Economic Community, Fiji, Finland, France, Gambia, Germany, Ghana, Greece, Guatemala, Guinea (9/23/92), Hungary, Iceland, India (9/17/92), Indonesia (9/24/92), Iran, Ireland, Israel (9/28/92), Italy, Japan, Jordan, Kenya, Libyan Arab Jamahiriya, Liechtenstein, Luxembourg, Malawi, Malaysia, Maldives, Malta, Mexico, Netherlands, New Zealand, Nigeria, Norway, Panama, Philippines, Poland, Portugal, Republic of Korea (5/27/92), Russian Federation, Singapore, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Syrian Arab Republic, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Ukrainian Soviet Socialist Republic, United Arab Emirates, United Kingdom, United States of America, Uruguay, Venezuela, Yugoslavia, Zambia.

Appendix D to Subpart A—Nations Complying With, But Not Parties to, the Protocol [reserved]

Appendix E to Subpart A—Article 5 Parties

Argentina, Bangladesh, Botswana (3/3/92), Brazil, Burkina Faso, Cameroon, Chile, China, Costa Rica, Cyprus (8/26/92), Ecuador, Egypt, Fiji, Gambia, Ghana, Guatemala, Guinea (9/23/92), India (9/23/92), Indonesia (9/24/92), Iran, Jordan, Kenya, Libyan Arab Jamahiriya, Malawi, Malaysia, Maldives, Mexico, Nigeria, Panama, Philippines, Republic of Korea (5/27/92), Sri Lanka, Syrian Arab Republic, Thailand, Togo, Trinidad and Tobago.

Tunisia, Turkey, Uganda, Uruguay, Venezuela, Yugoslavia, Zambia.

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