

addition to either of such lists, the Administrator shall assign to each listed substance a numerical value representing the substance's ozone-depletion potential. In addition, the Administrator shall publish the chlorine and bromine loading potential and the atmospheric lifetime of each listed substance. One year after November 15, 1990 (one year after the addition of a substance to either of such lists in the case of a substance added after the publication of the initial lists of such substances), and after notice and opportunity for public comment, the Administrator shall publish the global warming potential of each listed substance. The preceding sentence shall not be construed to be the basis of any additional regulation under this chapter. In the case of the substances referred to in table 1, the ozone-depletion potential shall be as specified in table 1, unless the Administrator adjusts the substance's ozone-depletion potential based on criteria referred to in section 7671(10) of this title:

TABLE 1

Substance	Ozone-depletion potential
chlorofluorocarbon-11 (CFC-11)	1.0
chlorofluorocarbon-12 (CFC-12)	1.0
chlorofluorocarbon-13 (CFC-13)	1.0
chlorofluorocarbon-111 (CFC-111)	1.0
chlorofluorocarbon-112 (CFC-112)	1.0
chlorofluorocarbon-113 (CFC-113)	0.8
chlorofluorocarbon-114 (CFC-114)	1.0
chlorofluorocarbon-115 (CFC-115)	0.6
chlorofluorocarbon-211 (CFC-211)	1.0
chlorofluorocarbon-212 (CFC-212)	1.0
chlorofluorocarbon-213 (CFC-213)	1.0
chlorofluorocarbon-214 (CFC-214)	1.0
chlorofluorocarbon-215 (CFC-215)	1.0
chlorofluorocarbon-216 (CFC-216)	1.0
chlorofluorocarbon-217 (CFC-217)	1.0
halon-1211	3.0
halon-1301	10.0
halon-2402	6.0
carbon tetrachloride	1.1
methyl chloroform	0.1
hydrochlorofluorocarbon-22 (HCFC-22)	0.05
hydrochlorofluorocarbon-123 (HCFC-123)	0.02
hydrochlorofluorocarbon-124 (HCFC-124)	0.02
hydrochlorofluorocarbon-141(b) (HCFC-141(b))	0.1
hydrochlorofluorocarbon-142(b) (HCFC-142(b))	0.06

Where the ozone-depletion potential of a substance is specified in the Montreal Protocol, the ozone-depletion potential specified for that substance under this section shall be consistent with the Montreal Protocol.

(July 14, 1955, ch. 360, title VI, § 602, as added Pub. L. 101-549, title VI, § 602(a), Nov. 15, 1990, 104 Stat. 2650.)

**§ 7671b. Monitoring and reporting requirements**

**(a) Regulations**

Within 270 days after November 15, 1990, the Administrator shall amend the regulations of the Administrator in effect on such date regarding monitoring and reporting of class I and class II substances. Such amendments shall conform to the requirements of this section. The amend-

ed regulations shall include requirements with respect to the time and manner of monitoring and reporting as required under this section.

**(b) Production, import, and export level reports**

On a quarterly basis, or such other basis (not less than annually) as determined by the Administrator, each person who produced, imported, or exported a class I or class II substance shall file a report with the Administrator setting forth the amount of the substance that such person produced, imported, and exported during the preceding reporting period. Each such report shall be signed and attested by a responsible officer. No such report shall be required from a person after April 1 of the calendar year after such person permanently ceases production, importation, and exportation of the substance and so notifies the Administrator in writing.

**(c) Baseline reports for class I substances**

Unless such information has previously been reported to the Administrator, on the date on which the first report under subsection (b) of this section is required to be filed, each person who produced, imported, or exported a class I substance (other than a substance added to the list of class I substances after the publication of the initial list of such substances under this section) shall file a report with the Administrator setting forth the amount of such substance that such person produced, imported, and exported during the baseline year. In the case of a substance added to the list of class I substances after publication of the initial list of such substances under this section, the regulations shall require that each person who produced, imported, or exported such substance shall file a report with the Administrator within 180 days after the date on which such substance is added to the list, setting forth the amount of the substance that such person produced, imported, and exported in the baseline year.

**(d) Monitoring and reports to Congress**

(1) The Administrator shall monitor and, not less often than every 3 years following November 15, 1990, submit a report to Congress on the production, use and consumption of class I and class II substances. Such report shall include data on domestic production, use and consumption, and an estimate of worldwide production, use and consumption of such substances. Not less frequently than every 6 years the Administrator shall report to Congress on the environmental and economic effects of any stratospheric ozone depletion.

(2) The Administrators of the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration shall monitor, and not less often than every 3 years following November 15, 1990, submit a report to Congress on the current average tropospheric concentration of chlorine and bromine and on the level of stratospheric ozone depletion. Such reports shall include updated projections of—

(A) peak chlorine loading;

(B) the rate at which the atmospheric abundance of chlorine is projected to decrease after the year 2000; and

(C) the date by which the atmospheric abundance of chlorine is projected to return to a level of two parts per billion.

Such updated projections shall be made on the basis of current international and domestic controls on substances covered by this subchapter as well as on the basis of such controls supplemented by a year 2000 global phase out of all halocarbon emissions (the base case). It is the purpose of the Congress through the provisions of this section to monitor closely the production and consumption of class II substances to assure that the production and consumption of such substances will not:

- (i) increase significantly the peak chlorine loading that is projected to occur under the base case established for purposes of this section;
- (ii) reduce significantly the rate at which the atmospheric abundance of chlorine is projected to decrease under the base case; or
- (iii) delay the date by which the average atmospheric concentration of chlorine is projected under the base case to return to a level of two parts per billion.

**(e) Technology status report in 2015**

The Administrator shall review, on a periodic basis, the progress being made in the development of alternative systems or products necessary to manufacture and operate appliances without class II substances. If the Administrator finds, after notice and opportunity for public comment, that as a result of technological development problems, the development of such alternative systems or products will not occur within the time necessary to provide for the manufacture of such equipment without such substances prior to the applicable deadlines under section 7671d of this title, the Administrator shall, not later than January 1, 2015, so inform the Congress.

**(f) Emergency report**

If, in consultation with the Administrators of the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration, and after notice and opportunity for public comment, the Administrator determines that the global production, consumption, and use of class II substances are projected to contribute to an atmospheric chlorine loading in excess of the base case projections by more than  $\frac{5}{10}$ ths parts per billion, the Administrator shall so inform the Congress immediately. The determination referred to in the preceding sentence shall be based on the monitoring under subsection (d) of this section and updated not less often than every 3 years.

(July 14, 1955, ch. 360, title VI, § 603, as added Pub. L. 101-549, title VI, § 602(a), Nov. 15, 1990, 104 Stat. 2653.)

TERMINATION OF REPORTING REQUIREMENTS

For termination, effective May 15, 2000, of provisions in subsec. (d)(1) of this section relating to submittal of triennial report to Congress, see section 3003 of Pub. L. 104-66, as amended, set out as a note under section 1113 of Title 31, Money and Finance, and the 12th item on page 162 of House Document No. 103-7.

METHANE STUDIES

Pub. L. 101-549, title VI, § 603, Nov. 15, 1990, 104 Stat. 2670, provided that:

“(a) ECONOMICALLY JUSTIFIED ACTIONS.—Not later than 2 years after enactment of this Act [Nov. 15, 1990],

the Administrator shall prepare and submit a report to the Congress that identifies activities, substances, processes, or combinations thereof that could reduce methane emissions and that are economically and technologically justified with and without consideration of environmental benefit.

“(b) DOMESTIC METHANE SOURCE INVENTORY AND CONTROL.—Not later than 2 years after the enactment of this Act [Nov. 15, 1990], the Administrator, in consultation and coordination with the Secretary of Energy and the Secretary of Agriculture, shall prepare and submit to the Congress reports on each of the following:

“(1) Methane emissions associated with natural gas extraction, transportation, distribution, storage, and use. Such report shall include an inventory of methane emissions associated with such activities within the United States. Such emissions include, but are not limited to, accidental and intentional releases from natural gas and oil wells, pipelines, processing facilities, and gas burners. The report shall also include an inventory of methane generation with such activities.

“(2) Methane emissions associated with coal extraction, transportation, distribution, storage, and use. Such report shall include an inventory of methane emissions associated with such activities within the United States. Such emissions include, but are not limited to, accidental and intentional releases from mining shafts, degasification wells, gas recovery wells and equipment, and from the processing and use of coal. The report shall also include an inventory of methane generation with such activities.

“(3) Methane emissions associated with management of solid waste. Such report shall include an inventory of methane emissions associated with all forms of waste management in the United States, including storage, treatment, and disposal.

“(4) Methane emissions associated with agriculture. Such report shall include an inventory of methane emissions associated with rice and livestock production in the United States.

“(5) Methane emissions associated with biomass burning. Such report shall include an inventory of methane emissions associated with the intentional burning of agricultural wastes, wood, grasslands, and forests.

“(6) Other methane emissions associated with human activities. Such report shall identify and inventory other domestic sources of methane emissions that are deemed by the Administrator and other such agencies to be significant.

“(c) INTERNATIONAL STUDIES.—

“(1) METHANE EMISSIONS.—Not later than 2 years after the enactment of this Act [Nov. 15, 1990], the Administrator shall prepare and submit to the Congress a report on methane emissions from countries other than the United States. Such report shall include inventories of methane emissions associated with the activities listed in subsection (b).

“(2) PREVENTING INCREASES IN METHANE CONCENTRATIONS.—Not later than 2 years after the enactment of this Act [Nov. 15, 1990], the Administrator shall prepare and submit to the Congress a report that analyzes the potential for preventing an increase in atmospheric concentrations of methane from activities and sources in other countries. Such report shall identify and evaluate the technical options for reducing methane emission from each of the activities listed in subsection (b), as well as other activities or sources that are deemed by the Administrator in consultation with other relevant Federal agencies and departments to be significant and shall include an evaluation of costs. The report shall identify the emissions reductions that would need to be achieved to prevent increasing atmospheric concentrations of methane. The report shall also identify technology transfer programs that could promote methane emissions reductions in lesser developed countries.

“(d) NATURAL SOURCES.—Not later than 2 years after the enactment of this Act [Nov. 15, 1990], the Adminis-

trator shall prepare and submit to the Congress a report on—

“(1) methane emissions from biogenic sources such as (A) tropical, temperate, and subarctic forests, (B) tundra, and (C) freshwater and saltwater wetlands; and

“(2) the changes in methane emissions from biogenic sources that may occur as a result of potential increases in temperatures and atmospheric concentrations of carbon dioxide.

“(e) STUDY OF MEASURES TO LIMIT GROWTH IN METHANE CONCENTRATIONS.—Not later than 2 years after the completion of the studies in subsections (b), (c), and (d), the Administrator shall prepare and submit to the Congress a report that presents options outlining measures that could be implemented to stop or reduce the growth in atmospheric concentrations of methane from sources within the United States referred to in paragraphs (1) through (6) of subsection (b). This study shall identify and evaluate the technical options for reducing methane emissions from each of the activities listed in subsection (b), as well as other activities or sources deemed by such agencies to be significant, and shall include an evaluation of costs, technology, safety, energy, and other factors. The study shall be based on the other studies under this section. The study shall also identify programs of the United States and international lending agencies that could be used to induce lesser developed countries to undertake measures that will reduce methane emissions and the resource needs of such programs.

“(f) INFORMATION GATHERING.—In carrying out the studies under this section, the provisions and requirements of section 114 of the Clean Air Act [42 U.S.C. 7414] shall be available for purposes of obtaining information to carry out such studies.

“(g) CONSULTATION AND COORDINATION.—In preparing the studies under this section the Administrator shall consult and coordinate with the Secretary of Energy, the Administrators of the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration, and the heads of other relevant Federal agencies and departments. In the case of the studies under subsections (a), (b), and (e), such consultation and coordination shall include the Secretary of Agriculture.”

**§ 7671c. Phase-out of production and consumption of class I substances**

**(a) Production phase-out**

Effective on January 1 of each year specified in Table 2, it shall be unlawful for any person to produce any class I substance in an annual quantity greater than the relevant percentage specified in Table 2. The percentages in Table 2 refer to a maximum allowable production as a percentage of the quantity of the substance produced by the person concerned in the baseline year.

TABLE 2

Date	Carbon tetrachloride	Methyl chloroform	Other class I substances
1991 ...	100% .....	100% .....	85%
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 ...	.....	20% .....	.....
2001 ...	.....	20% .....	.....

**(b) Termination of production of class I substances**

Effective January 1, 2000 (January 1, 2002 in the case of methyl chloroform), it shall be unlawful for any person to produce any amount of a class I substance.

**(c) Regulations regarding production and consumption of class I substances**

The Administrator shall promulgate regulations within 10 months after November 15, 1990, phasing out the production of class I substances in accordance with this section and other applicable provisions of this subchapter. The Administrator shall also promulgate regulations to insure that the consumption of class I substances in the United States is phased out and terminated in accordance with the same schedule (subject to the same exceptions and other provisions) as is applicable to the phase-out and termination of production of class I substances under this subchapter.

**(d) Exceptions for essential uses of methyl chloroform, medical devices, and aviation safety**

**(1) Essential uses of methyl chloroform**

Notwithstanding the termination of production required by subsection (b) of this section, during the period beginning on January 1, 2002, and ending on January 1, 2005, the Administrator, after notice and opportunity for public comment, may, to the extent such action is consistent with the Montreal Protocol, authorize the production of limited quantities of methyl chloroform solely for use in essential applications (such as nondestructive testing for metal fatigue and corrosion of existing airplane engines and airplane parts susceptible to metal fatigue) for which no safe and effective substitute is available. Notwithstanding this paragraph, the authority to produce methyl chloroform for use in medical devices shall be provided in accordance with paragraph (2).

**(2) Medical devices**

Notwithstanding the termination of production required by subsection (b) of this section, the Administrator, after notice and opportunity for public comment, shall, to the extent such action is consistent with the Montreal Protocol, authorize the production of limited quantities of class I substances solely for use in medical devices if such authorization is determined by the Commissioner, in consultation with the Administrator, to be necessary for use in medical devices.

**(3) Aviation safety**

(A) Notwithstanding the termination of production required by subsection (b) of this section, the Administrator, after notice and opportunity for public comment, may, to the extent such action is consistent with the Montreal Protocol, authorize the production of limited quantities of halon-1211 (bromochlorodifluoromethane), halon-1301 (bromotrifluoromethane), and halon-2402 (dibromotetrafluoroethane) solely for purposes of aviation safety if the Administrator of the Federal Aviation Administration, in consultation with the Administrator, determines that no safe