



Department of Energy
Washington, DC

August 10, 1998

Air Docket No, A - 92-01 VIII.H
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Gentlemen:

The U.S. Department of Energy (DOE) has reviewed the June 11, 1998, proposed rule, "Protection of Stratospheric Ozone; Refrigerant Recycling; Substitute Refrigerants", ([63 FR 32044](#)) that implements and clarifies the requirements of Section 608(c)(2) of the Clean Air Act, which extends the prohibition on venting to substitutes for chlorofluorocarbon (CFC) and hydrochlorofluorocarbon (HCFC) refrigerants.

The enclosed two copies of comments and recommendations on the proposed rule reflect concerns raised by DOE program and field organizations. The principal theme of these comments relates to the stringency of the proposed, lower-permissible, annual leak rates of refrigerants for commercial and industrial process refrigeration, and chillers.

DOE appreciates the opportunity to comment on the proposed rule. If there are any questions concerning these comments, please contact Emile I. Boulos of my staff at 202-586-1306.

Sincerely,

Raymond P. Berube
Acting Director
Office of Environmental Policy and Assistance

Enclosure

**Department of Energy (DOE) comments
on the Environmental Protection Agency's (EPA) proposed rule:
"Protection of Stratospheric Ozone; Refrigerant Recycling; Substitute
Refrigerants"
(Federal Register Vol. 63, No 112, June 11, 1998)**

The following is a consolidated response from the U.S. Department of Energy (DOE), prepared by the DOE Office of Environmental Policy and Assistance, to the proposed rule "Protection of Stratospheric Ozone; Refrigerant Recycling; Substitute Refrigerants.

Our comments fall under two categories, comments on specific issues, and responses to questions in the preamble.

For your convenience, the appropriate Federal Register page citation precedes each comment.

Specific comments:

The principal theme of these comments relates to the stringency of new proposed lower permissible annual leak rates of refrigerants for commercial refrigeration, commercial and industrial process refrigeration, and chillers.

- i. Page 32066, Section IV, B.3:
DOE supports the concept of separate leak rate requirements for new and old comfort cooling chillers, but believes that the proposed permissible leak rate for older (i.e., 1992 and earlier) chillers should remain at the current 15% rate. It should not be lowered to 10%. A 10% rate would impose a financial and operational burden on owners.
- ii. Page 32066, Section IV, B.3:
While recognizing that EPA has proposed a 20% permissible leak rate for industrial process equipment, and has proposed four criteria allowing continuance of a permissible 35% leak rate for such older units, DOE believes that different criteria for permissible leak rates of at least 15% should be created for new site-assembled refrigeration units and chillers versus such equipment assembled in factories. These site-assembled refrigeration units or chillers would be subject otherwise to proposed 10% or 5% permissible leak rates. Factory assembled units tend to have lower leak rates, whereas site-assembled units cannot be guaranteed by contractors to DOE to meet the lower 10% or 5% proposed permissible leak rates. Due to some of the unique aspects of DOE defense related work, some refrigerant units must be configured and assembled on-site. To this end, and to help simplify the number of permissible leak rate categories, DOE suggests that equipment that must be assembled on-site be considered as generic "industrial process equipment" and hence subject to the

associated proposed 20% permissible leak rate, or be separately categorized as subject to at least a 15% permissible leak rate.

Response to specifically solicited comments:

- iii. Page 32067, Section IV 3.b:
In response to comment sought on whether low leak rates from new equipment will persist throughout the lifetime of the equipment, or will increase as the equipment ages, DOE observes that new equipment will probably have lower leak rates, but that these rates will likely increase due to normal wear and tear over time.
- iv. Page 32067, Section IV 3.b:
In response to comment sought on whether higher or lower leak rates might be appropriate for different types of commercial equipment--given that compressor rack systems, single compressor systems and self-contained units may have significantly different leak rates--DOE believes that EPA should propose different leak rates for different refrigerant equipment designs. Typically, the release of refrigerant occurs at seals and O-rings. Accordingly, hermetically sealed units can be expected to leak less than single compressor units.
- v. Page 32068, Section IV 3.c:
In response to comment sought on the interchangeableness of leaky and non-leaky designs, DOE believes that EPA should modify the Proposed Rule to provide two different leak rates, one for open drive systems, and one for hermetically sealed units. Users of refrigeration equipment should be required to use hermetically sealed units.
- vi. Page 32069, Section IV 3.d:
In response to comment sought on the basis of the 1992 dividing line between old and new units, DOE believes that the basis for doing so was not clear. There was no measurable breakthrough in design of refrigeration units after 1992. It would be more appropriate to use a later dividing line (as intimated in the preamble), and 2000 is so suggested, a date by which new designs, improved manufacturing practices, and new materials will be available to this industry.
- vii. Page 32069, Section IV 3.d:
In response to comment sought on the possibility of distinguishing between slow leakage, servicing emissions, and catastrophic emissions, DOE believes that it would be difficult to do so. Some refrigeration units do not manifest any sign of leakage until one third of their charge has been lost. The only way to determine each type of leakage would be to install individual monitoring devices or monitor each unit every day with a portable leak detector. This would be extremely burdensome.

- viii. Page 32072, Section IV, 3.F.iv:
The proposed 30 days to prepare, and one year to execute, a retrofit / retirement plan following unsuccessful repair, if implemented, would result in significant expense to critical on-going programs which would be able to be budgeted for better if extended over a period of several years.