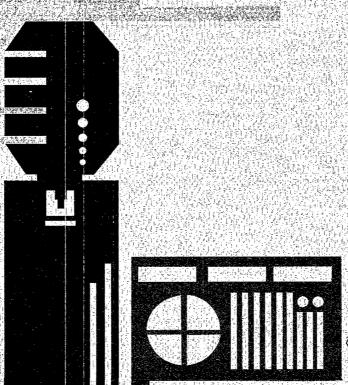
United States
Environmental Protection

Air and Radiation (6205-J) EPA 430-K-93-00



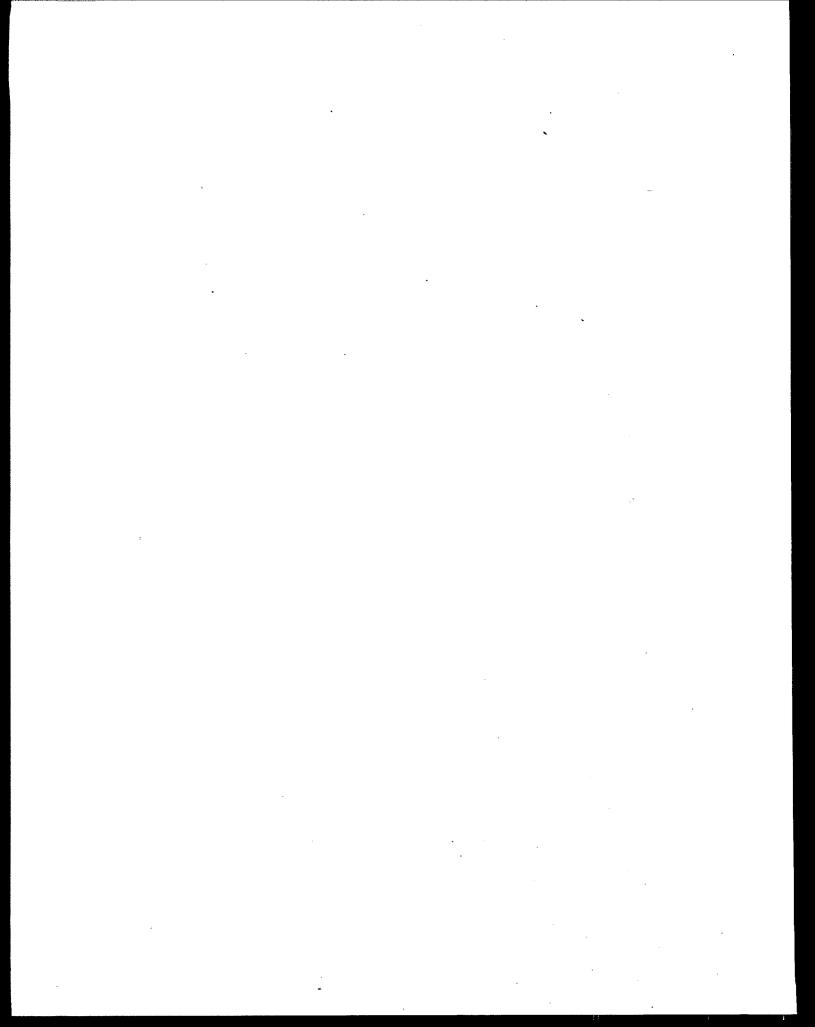
Protecting the Ozone Layer:

Safe Disposal of Home Appliances Containing Ozone-Depleting Substances





Recycled/Recyclable Printed on paper that contains at least 50% recycled fiber



Over 8 million refrigerators, freezers, air conditioners, dehumidifiers, and other refrigerated appliances are discarded each year in the United States, releasing an estimated 4 million pounds of chlorofluorocarbons and hydrochlorofluorocarbons into the atmosphere annually. These releases contribute to one of today's greatest environmental threats—the destruction of the stratospheric ozone layer.

On July 1, 1992, the Clean Air Act Amendments of 1990 required EPA to prohibit individuals from knowingly venting ozone-depleting compounds used as refrigerants into the atmosphere while maintaining, servicing, repairing, or disposing of air-conditioning or refrigeration equipment. This prohibition on venting presents communities across the United States with a new challenge: practicing environmentally sound and cost-effective waste disposal. Many solid waste managers and other policymakers are already developing innovative programs and policies for recovering ozone-depleting refrigerants from discarded appliances. Others have only just begun.

This booklet is designed to serve as a practical tool for understanding this issue and forging a national network for sharing ideas, solutions, and resources. It includes:

- An outline of Clean Air Act requirements for disposing of appliances containing refrigerant.
- Case studies highlighting existing or developing programs throughout the country.
- · An overview of the technical issues associated with refrigerant recovery.

In looking ahead to expanding and improving efforts in the area of appliance disposal, we welcome your response to this booklet. Please send your questions or comments, as well as any information regarding successes and problems in developing refrigerant-recovery initiatives in your community to:

Refrigerant Recovery Programs (Disposal) 6205-J U.S. EPA 401 M Street, SW Washington, DC 20460

EPA would like to acknowledge the invaluable contributions and assistance provided by governmental and private-sector representatives profiled in this brochure.

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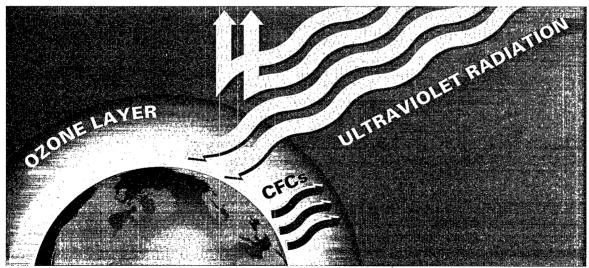
Strengthening the Ozone Shield: The Clean Air Act and the Montreal Protocol

Stratospheric ozone shields the Earth's surface from dangerous ultraviolet (UV-B) radiation. Mounting scientific evidence indicates that certain human-made compounds are depleting ozone in the stratosphere, allowing increased levels of UV-B radiation to pierce the atmosphere. Scientific studies indicate that higher UV-B radiation levels can affect human health, increasing the incidence of certain skin cancers and cataracts and suppressing the immune system. Higher UV-B radiation levels can also cause environmental harm on a global scale, damaging crops and aquatic organisms, accelerating weathering of outdoor plastics, and increasing the formation of ground-level ozone (or smog).

Title VI of the Clean Air Act Amendments of 1990 advances the U.S. policy to combat stratospheric ozone depletion by:

- Restricting the production, use, emission, and disposal of ozone-depleting chemicals.
- Mandating the phaseout of the production of ozone-depleting chemicals.
- Requiring the recycling of refrigerants in airconditioning and refrigeration equipment.
- Requiring the development and approval of substitutes for chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).
- Establishing a ban on nonessential products containing ozone-depleting chemicals.
- Requiring warning labels for consumers on products containing or made with ozonedepleting substances.

Through the Clean Air Act, the United States is meeting—and exceeding—its international commitments to protect the ozone layer. In 1987, 23 countries, including the United States, signed the Montreal Protocol on Substances that Deplete the Ozone Layer, an international agreement to cut the



Chlorofluorocarbons are powerful gases that trap heat in the lower atmosphere. When they float to the upper part of the atmosphere, they destroy the protective layer of ozone that surrounds the earth. As a result, some harmful UV-B radiation passes through the ozone shield into the lower atmosphere, rather than being reflected by the earth and the atmosphere.

production of these substances in half by 1998. Since then, the Protocol has been amended to totally phase out production of ozone-depleting substances by the year 2000 and has been signed by an additional 100 countries. In light of further evidence of potential ozone depletion in northern and middle latitudes, the Parties to the Protocol recently agreed to accelerate the phaseout of CFCs to the end of 1995, and to advance the phaseout of other ozone-destroying chemicals.

Changing Old Practices With New Regulations

Section 608 of the Clean Air Act, the National Recycling and Emissions Reduction Program, requires that EPA develop regulations to reduce CFC and HCFC emissions from all refrigeration and air-conditioning sectors to the "lowest achievable level." On May 14, 1993, EPA published final regulations that establish:

- Required service practices to be used during the maintenance and repair of air-conditioning and refrigeration equipment.
- Certification requirements for recovery and recycling equipment, technicians, and reclaimers.
- Restriction of refrigerant sales to certified technicians only.
- Safe disposal requirements to ensure the removal of ozone-depleting refrigerants from goods that enter the waste stream with the refrigerant charge intact (e.g., motor vehicle air conditioners, home refrigerators, and room air conditioners).

Section 608 of the Act prohibits individuals from knowingly releasing ozone-depleting compounds used as refrigerants into the atmosphere while maintaining, servicing, repairing, or disposing of air-conditioning or refrigeration equipment. The environmental and financial penalties for violating this prohibition on venting are high: EPA is authorized to assess fines of up to \$25,000 per day per violation of the Act.

Under the final regulations, EPA has established safe disposal requirements to ensure recovery of refrigerants from goods that enter the waste stream with the charge intact (e.g., motor vehicle air conditioners, home refrigerators, and room air conditioners). To allow for flexibility in complying with these regulations, the rule does not require that recovery take place at any specific point along the disposal chain. However, in order to ensure that refrigerants are removed from appliances before disposal, the rule does require that "final processors" (e.g., scrap metal processing facilities or landfills) verify that the refrigerant has been recovered from discarded appliances or remove the refrigerant themselves.

Where final processors choose not to recover the refrigerant, they may accept a signed statement with the name and address of the person delivering the appliance and the date the refrigerant was recovered. They may also choose to establish contracts for refrigerant removal with suppliers. EPA recommends that final processors and entities recovering refrigerant develop a method for indicating that refrigerant had been removed; they are not, however, required to develop any kind of specific marking. Similar methods are already in place in some areas for the removal of capacitors containing polychlorinated biphenyls (PCBs) from refrigeration units.

Under the rule, whoever provides refrigerantrecovery services would be required to recover at least 90 percent of the refrigerant contained in household appliances and room air conditioners. They must also register their equipment with the appropriate EPA Regional Office.

Recovery, Recycling, and Reclamation

Refrigerators, freezers, dehumidifiers, and other refrigerated appliances use CFCs as the cooling

fluid, while window air conditioners typically use HCFCs. Although both chemicals are generally nontoxic, nonflammable, and nonhazardous, both CFCs and HCFCs deplete the ozone layer. Besides preventing harmful releases of CFCs and HCFCs, recovering refrigerant also allows air-conditioning and refrigeration equipment owners to develop a supply of usable refrigerant to service their equipment when production of new refrigerants is halted as required by the Montreal Protocol.

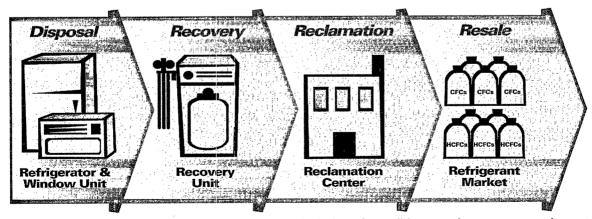
Although the procedures for recovering refrigerants from appliances are relatively straightforward, technicians recovering refrigerant should have some experience working with CFCs and HCFCs in airconditioning and refrigeration equipment. They should also be familiar with the techniques and equipment for refrigerant recovery, however, formal technician certification is not a requirement for individuals removing refrigerant from equipment in the waste stream.

In the course of general use, refrigerant can often become contaminated with acids, moisture, and oil. These impurities can affect the performance of air-conditioning and refrigeration equipment. Concerns about buying and selling used refrigerant with unknown contaminants led the Air Conditioning and Refrigeration Institute (ARI) to develop a standard of purity for refrigerant called the

ARI-700 standard. This standard sets maximum contaminant levels acceptable for refrigerant used in air-conditioning and refrigeration equipment. Purified refrigerant that is chemically tested to verify that it meets the ARI-700 standard is termed "reclaimed refrigerant."

Not all refrigerants need to be reclaimed for effective use. Under the final regulations, service technicians may recover refrigerant and then simply return it to the same unit or another unit owned by the same entity. Technicians may also recycle refrigerant—clean the refrigerant without chemically analyzing it to determine its level of purity. Recycled refrigerant may also be returned to the original equipment or other equipment owned by the same person. In all cases where refrigerant is recovered and resold, however, the proposal would require that refrigerant be reclaimed to the ARI-700 standard and that it be chemically tested to verify that it met that standard. Most, if not all, refrigerant recovered from household appliances would need to be reclaimed for resale.

Reclaimers must acquire certification from EPA. To become a reclaimer, a facility must purchase equipment that can purify refrigerant to the ARI-700 standard and chemically analyze its purity. EPA's certification requirements are based on the reclaimers' ability to meet these criteria.



CFCs and HCFCs are removed from refrigerators and window air conditioners using recovery equipment. A recovery unit draws out distinct refrigerants into tanks that are then transported to a reclaim center for purification. Once reclaimed to the ARI-700 standard, these refrigerants can be resold for safe reuse.

At this time there is no national network of approved reclamation centers. Until EPA's requirements for certification of reclamation centers take effect in August, 1993, municipalities may want to contact local air-conditioning or refrigeration technicians, refrigerant distributors, or wholesalers for information about the availability of reclaiming services. Some municipalities may also consider establishing their own reclamation centers.

Using Appropriate Equipment

Manufacturers have developed refrigerantrecovery equipment to draw out ozone-depleting refrigerants (in both liquid and gaseous states) from air-conditioning and refrigeration equipment. EPA has established a certification requirement for equipment used during servicing and repair of air-conditioning and refrigeration equipment. Recovery-only equipment used on appliances headed for disposal are exempt from this requirement, provided it meets a "performance standard" based on the equipment's ability to draw a vacuum. For small appliances, the recover equipment performance requirements are 90 percent efficiency when the appliance compressor is operational and 80 percent efficiency when the appliance compressor is not operational. For disposed vehicles, the performance standard is 102 mm of mercury vacuum.

EPA established the exemption from laboratory testing to encourage technicians to develop new equipment and innovative technologies that can improve the efficiency and cost-effectiveness of recovery from household appliances without adding the burden of government certification. In all cases where refrigerant changes ownership, however, recovered refrigerant must still be reclaimed to the ARI-700 standard before being resold.

Equipment used to recover refrigerant must be registered with the appropriate EPA Regional office by August 12, 1993. A sample form is included at the end of this booklet.

Developing a Refrigerant Recovery Program: Case Studies

Local governments can address the appliance disposal issue in several ways. One simple approach is to force consumers to pay appliance retailers or general service technicians to remove refrigerants from units before disposal. This option requires individuals to recover refrigerants from one unit at a time, and will generally cost consumers between \$40 and \$50 a unit, depending on the price of labor. This strategy poses obvious problems. First, high disposal costs are likely to discourage consumers from complying with the law. Second, this approach could aggravate an already complicated disposal process by requiring haulers to verify that refrigerants had been removed from individual units.

Local governments have other options. They can provide recovery services themselves or in partnerships with private businesses. Perhaps the most important decision in developing cost-effective programs is determining the scope of the recycling project. In some cases, a program operated by a few individuals targeted exclusively at removing refrigerant at some point along the waste stream may prove most economical. In others, it may make more economic and environmental sense to integrate refrigerant-recovery programs into large-scale, multipurpose appliancerecycling programs. As landfill space shrinks, many communities in the United States are already recycling home appliances to be resold for scrap metal, and are extending their programs to recover refrigerant at only a marginal cost.

Another important component influencing the scope of a refrigerant-recovery program is the potential for recovering CFCs and HCFCs from a collected stockpile of refrigerators and other appliances. The feasibility of dropping appliances off at a single collection site can affect a municipality's flexibility in defining the scope of a refrigerantrecovery program.

Refrigerant recovery from motor vehicle air conditioners is also an important component of safe disposal. Because the market structure and waste stream for cars differ significantly from those for home appliances, EPA intends to develop separate guidance documents for recycling refrigerants within the automobile industry.

Case Studies

Several options exist for recovering refrigerant from home appliances before their disposal. Local governments will want to determine where to target their program based on the particular circumstances of their waste streams in their community. Counties and municipalities may wish to consider the following recovery options:

- Recovery at disposal.
- Midstream recovery—using appliance recycling centers.

Recovery at Disposal

Trained technicians can recover refrigerant on site at a scrap processing facility or at a municipal or privately owned landfill—usually the two final processors of home appliances. Many local

Orange County, California

Orange County initiated its recovery program in conjunction with the July 1 prohibition on venting. At the county landfill, haulers are asked to separate household appliances from the general waste. Landfill workers also attempt to retrieve refrigerators that are mixed in with other dumped goods. The refrigerant in the stockpiled units is recovered by a trained staff and is resold to a CFC wholesaler. The county estimates that it will handle 250 appliances a month and up to 3,000 appliances a year.

Contact: Scott Craile Orange County 714 568-4160

Newark, New Jersey

The City of Newark plans to enter into a full-service contract for the recovery and reclamation of refrigerants from appliances, such as refrigerators, freezers, water coolers, air conditioners, and other equipment that contains CFC refrigerants. Under the proposed contract, Newark would use owned or leased equipment to collect and transport the appliances to a location designated by the city. The contractors would be contractually and legally responsible for recovering the refrigerants in appliances, would be required to provide documentation to the city stating the amount and type of refrigerant recovered, and would have to supply monthly reports to the city indicating the number of pounds of refrigerant reclaimed and the name of the reclaimer who purchased the refrigerant. The City would then be responsible for transporting the appliances to a recycling market.

Contact: Frank Sudol
Department of Engineering, City of Newark
201 733-8520

Loudoun County, Virginia

Loudoun County provides a collection point at the County landfill for scrap metal (including refrigerated appliances, home air conditioners, and other equipment containing CFCs and HCFC refrigerant). Loudoun County accepts scrap metal from residents, businesses, and haulers. The "tip fee" for appliances is currently \$3.00 apiece.

In July 1992, the county hired a firm to recover the refrigerant from the stockpiled appliances. The firm then sells the recovered refrigerant to a reclamation center for purification and resale.

Contact: Steve Carfora Virginia Department of Environmental Resources 703 771-5215

Eau Claire, Wisconsin

In Eau Claire, an appliance recycler recovers refrigerant within a scrap-processing facility. Under the agreement, a scrap metal recycler, Max Phillips and Sons, accepts refrigerators for a fee from appliance owners. These appliances are then directed to JR's Recycling, a leased area within the scrap yard. The refrigerant is recovered and reclaimed, PCB capacitors are removed, and the processed units are returned to the scrap yard for metal recycling. JR's Recycling is licensed by Wisconsin Department of Resources for refrigerant and by EPA to generate hazardous waste.

Contact: Terry Zeien JR's Recycling 612 454-9215

Austin, Texas

The Environmental and Conservation Service of the City of Austin works with Ecology Action, a non-profit organization, to recover refrigerant from appliances before disposal. Ecology Action operates a recycling center at the entrance of the municipal landfill. Trained technicians using leased equipment recover refrigerant from units before landfilling. The City of Austin provides free space and electricity to the Ecology Action staff. Ecology Action pays for the equipment by returning recovered refrigerant to the distributor providing the machine. The distributor can then reclaim and resell this refrigerant.

In addition, the City of Austin surpasses the federal prohibition on venting by calling for leak detection and repair of air conditioning and refrigeration equipment and by requiring technicians to acquire permits to handle refrigerants.

Contact: Kevin Batt Residential Program Manager, Environmental and Conservation Service City of Austin 512 499-3507 governments are developing plans to issue contracts to landfill and scrap facility operators to recover refrigerant.

Landfill and scrap facility operators may want to consider establishing joint ventures with air-conditioning and refrigeration technicians. In this option, final processors and technicians share facility space in order to remove the refrigerant from appliances before processing.

Midstream Recovery: Appliance Recycling Programs

Some municipalities and counties may choose to develop their own appliance recycling programs or may develop contracts with privately-owned recyclers. The appliance collection services are generally provided by private companies. Their facilities are often equipped to handle very high volumes of appliances, accepting approximately 1,000 appliances a week. Appliance recyclers generally remove potentially hazardous PCB capacitors and recover refrigerant before transporting these appliances to scrap metal dealers. In addition, some scrap dealers also require removal of compressors, used oil, motors, insulation, mercury switches, and other components. Some facilities are also developing recycling processes for the foam insulation in these appliances, which generally contains CFC-11.

Appliance recycling programs reduce the volume of waste headed for landfills and reduce CFC and HCFC emissions. Although these are important benefits, the most aggressive participants in appliance recycling programs have a different objective in mind—saving energy. Many utilities facing spiraling energy demands are turning to energy conservation programs (also known as demand-side management programs) instead of building new and costly power plants. In the case of home appliances, utilities realized that consumers usually continue using old and inefficient refrigerators after purchasing new ones. In response, some companies have developed programs to pick these units up at no cost to the consumer.

Other Technical Issues in Refrigerant Recovery

Identifying Refrigerants

Technicians repairing and disposing of appliances today may encounter equipment containing refrigerants other than CFCs and HCFCs. Sulfur dioxide (R-764), ammonia (R-717), methyl formate (R-611), and methyl chloride (R-40) were commonly used in household refrigerators and home air conditioners as late as the 1950's.

New England

Northeast Utilities, the largest electric utility system in New England, instituted an appliance-pickup program. The recycler under contract to the utility recovers refrigerant, removes PCB capacitors and mercury switches, and resells the metal to a scrap recycler. Over a 2-year period, the program collected 31,142 working refrigerators and freezers from consumers, saving over 17 million kilowatt hours of electricity—enough to meet the annual energy needs of 28,000 homes. In addition, over 3 million pounds of scrap metal have been resold, and over 8,000 pounds of refrigerants have been recovered and purified for resale. Two large appliance recyclers working with utilities are the Appliance Recycling Centers of America and Planergy, Inc.

ARCA: 800 452-8680 Planergy: 800 531-5114

Madison, Wisconsin

The City of Madison entered into a 1-year contract with a private firm to remove PCB capacitors and recover refrigerant from appliances containing refrigerant. Under the current system, the City of Madison pays \$10 per unit over the \$48,000 flat fee paid for the general recycling service. In addition, the city guarantees the contractor at least \$60 per ton of scrap metal.

This program was developed in order to comply with a state regulation that exceeds federal requirements. Act 335 prohibits the landfilling of appliances effective January 1, 1992. In addition, the Wisconsin Department of Natural Resources developed the following rules:

- Appliance salvagers/dismantlers must register annually with the state and certify that CFCs will
 be recovered from discarded appliances using state-approved equipment operated by individuals
 who have attended state-approved training.
- Any one person who transports discarded appliances that may contain CFCs must register with the Department of Natural Resources annually and provide information on transport equipment and loading procedures.
- Only certified appliance salvagers/dismantlers may sell or give CFC-containing appliances to a scrap metal processor; written certification that the CFCs have been recovered is required.

Contact: George Dreckman Street Division Department of Public Works, City of Madison 608 267-2626

Jacksonville, Florida

The City of Jacksonville operates a general recycling program in which municipal employees process home appliances before disposal. The city recovers refrigerant and removes PCB capacitors before sending the processed appliance to a scrap recycler. Recovered refrigerant is reclaimed and then redistributed; CFC-12 is returned to the city motor pool for use in municipal automobile air conditioners, while HCFC-22 is used in window air-conditioning units in housing and urban development offices. The City of Jacksonville handles approximately 3,300 tons of appliances a year. This innovative program currently pays for itself through revenue from sales of scrap metal.

Contact: Nelson Caswell
Collection and Recycling Program, City of Jacksonville
904 387-8999

Refrigerators using sulfur dioxide are apparently the only ones found in any significant quantity. For example, in an appliance recycling program operated by Planergy, Inc., in New York State, only 2 percent of the 12,000 units processed used sulfur dioxide as a refrigerant. Planergy encountered significantly fewer household appliances containing methyl formate, methyl chloride, or ammonia.

Technicians can quickly determine the kind of refrigerant used by checking the identification tag on the unit. These tags are commonly found on the bottom or front of the unit. Identifying the refrigerant used in an appliance without using the tag requires significant experience with refrigeration. In most cases, unknown refrigerants can be recovered and incinerated.

Different refrigerants pose different health hazards. The U.S. Department of Health and Human Services issues occupational health guidelines for different substances. The Occupational Safety and Health Administration (OSHA) also sets regulations for handling substances. In general terms, how-ever, sulfur dioxide has an extremely noxious odor that causes coughing and stinging in the eyes. The refrigerant can be used safely because no human or animal can stand even a small concentration of sulfur dioxide in the air. Methyl chloride has a sweet odor, but if breathed can have an anaesthetic effect and is known to sometimes have a delayed toxic effect. Exposure to methyl formate may cause irritation of the eyes, nose, throat, and lungs. It may also cause drowsiness, and at high levels, unconsciousness and death.

Sulfur dioxide, methyl chloride, and methyl formate can be recovered with conventional equipment and then incinerated. Ammonia in liquid form can be neutralized with a weak acid or diluted with large quantities of water. Although sulfur dioxide can also be neutralized, it is generally incinerated.

Handling Used Refrigerant Oils

Used oils removed from air-conditioning and refrigeration equipment usually contain a significant quantity of CFCs. Some of these CFCs can be removed for reclamation from the used oil using appropriate recovery techniques.

The new Part 279 of Title 40 of the Code of Federal Regulations under the Resource Conservation and Recovery Act (RCRA) establishes management standards for used oils. Originally, CFC-contaminated used oils were considered hazardous if they exhibited a halogen level—a test for chlorine content—over 1,000 parts per million (ppm). The new standard exempts CFC-contaminated oils if:

- Generators and handlers of these used oils attempt to recover and reclaim these CFCs.
- The used oils with residual CFCs are not mixed with used oils from other sources or other wastes.

Used oils with residual CFCs are still subject to other appropriate Part 279 standards. For example, used oils containing more than 4,000 ppm total halogens are considered "off-specification used fuels."

For further information about management standards for specification and off-specification used oils contact the U.S. EPA's RCRA Hotline at 800 424-9346.

Looking Toward the Future

In addition to minimizing the release of existing CFCs and HCFCs through phaseout and recycling rules, EPA is exploring other innovative ways to reduce emissions of these gases in the future.

CFC-11 Removal From Insulation

Insulating foams in appliances often contain CFC-11. The amount of potentially recoverable refrigerant in foams is generally equivalent to the amount of refrigerant in the equipment's cooling system. However, there are significant technical problems in attempting to retrieve CFC-11 from foam. In addition, foam retrieval technology is prohibitively expensive for widespread use in the United States. EPA is interested in demonstration projects to investigate the feasibility of using this or newer CFC-11 retrieval technology or foam incineration projects. EPA does not at this time intend to require recovering CFCs in foams from appliances before disposal.

New Refrigerants

In the 1990's, the refrigeration and air-conditioning industry is taking dramatic steps toward developing new refrigerants. Manufacturers are exploring the use of hydrofluorocarbons, blends, and other substances that neither deplete the ozone layer nor contribute significantly to global warming and that could improve equipment lifetimes and energy efficiency.

Innovations in Energy Conservation

EPA is also working with utilities interested in energy conservation and manufacturers of air-conditioning and refrigeration equipment toward another important goal: developing super-efficient refrigerators. EPA's "Golden CarrotTM" Super-Efficient Refrigerator Program (SERP) brings these diverse groups together to develop and market CFC-free refrigerators and freezers that consume at least 30 percent less energy than efficiency requirements set by the 1993 National Appliance Energy Conservation Act (NAECA).

This innovative program provides manufacturers with incentives to develop technologically advanced, energy-efficient refrigerators at low investment risk. A recent competition led to the selection of Frigidaire and Whirlpool as the final-

ists in a competition to develop a new generation of super-efficient refrigerators and freezers. The winner and other participants with competitive models will be eligible for about \$30 million in incentives from participating utilities that will keep the cost of super-efficient refrigerators and freezers at the same level as their less efficient counterparts. This program promises to bring high-technology, high-efficiency, and environmentally-friendly refrigerators and freezers to homes across America.

For information concerning regulations related to stratospheric ozone protection, call the Stratospheric Ozone Hotline Monday through Friday (except federal holidays) at 800 296-1996 between 10 am and 4 pm (Eastern Time).

OMB # 2060-0256 Expiration Date: 5/96

THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA) REFRIGERANT RECOVERY OR RECYCLING DEVICE **ACQUISITION CERTIFICATION FORM**

EPA regulations require establishments that service or dispose of refrigeration or air conditioning equipment

Area Code Telephone Number
Number of Service Vehicles Based at Establishment County T 2: REGULATORY CLASSIFICATION Identify the type of work performed by the establishment. Check all boxes that apply. Type A - Service small appliances Type B - Service refrigeration or air conditioning equipment other than small appliances Type D - Dispose of small appliances Type D - Dispose of refrigeration or air conditioning equipment other than small appliances TT 3: DEVICE IDENTIFICATION Name of Device(s) Manufacturer Model Number Year Serial Number (if any) Check Box if Self-Contained Contained 1. 2. 3. 4. 5. 6. 7.
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Public reporting burden for this collection of information is estimated to vary from 20 minutes to 60 minutes per response with an average of 40 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing the collection of information. Send comments regarding ONLY the burden estimates or any other aspects of this collection of information, including suggestions for reducing this burden to Chief, Information Policy Branch; EPA;401 M St., S.W. (PM-223Y); Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer of EPA" DO NOT SEND THIS FORM TO THE ABOVE ADDRESSES. ONLY SEND COMMENTS TO THESE ADDRESSES.

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