

**Supporting Statement for EPA's Information Collection Request
Number 2254.03
Responsible Appliance Disposal Program (Renewal)**

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1. IDENTIFICATION OF THE INFORMATION COLLECTION

1(a) *Title of the Information Collection*

This ICR is entitled "Responsible Appliance Disposal Program (Renewal)," EPA ICR number 2254.03, OMB Control Number 2060-0703.

1(b) *Short Characterization/Abstract*

The Responsible Appliance Disposal program (RAD) is a voluntary partnership program sponsored by the Environmental Protection Agency (EPA) that encourages partners to reduce emissions of ozone depleting substances (ODS) and their alternatives that can be attributed to improper disposal of appliances. Appliances may contain ozone-depleting refrigerants and foams as well as universal wastes such as mercury, used oil, and polychlorinated biphenyls (PCBs). Federal law requires refrigerant recovery and proper management of universal waste but does not require the recovery of appliance foam. The RAD program works with utilities, retailers, manufacturers, state affiliates, and others to dispose of appliances using best environmental practices.

To encourage reductions in emissions associated with appliance disposal in the United States, the EPA launched the RAD program. The RAD program supports Section 608 of the Clean Air Act (CAA) and is an important component of the EPA's mission to protect the ozone layer by reducing emissions of ODS. RAD program partners reduce emissions of ODS and realize other benefits through recovery and destruction/reclamation of refrigerants and foam blowing agents—the latter of which is not covered under existing Federal regulations—and by ensuring that all other hazardous and recyclable materials are handled using best environmental practices. Greenhouse gas (GHG) emissions are avoided through recovery of both ODS and many non-ODS foam blowing agents not covered under existing regulations. Additionally, through the RAD program, the EPA is partnering with utilities, retailers, manufacturers, state agencies, and others to promote the retirement of old appliances and permanently remove energy inefficient units from the electricity grid, providing energy savings to consumers.

Participation in the program begins with completion of a mutually agreed upon Partnership Agreement that outlines mutual responsibilities for participation in RAD program. By voluntarily joining the program, a partner agrees to complete an annual reporting form identifying the

number and types of appliances handled and the fates of their individual components. The electronic reporting form automatically generates feedback for the user on the results of their participation in terms of emissions avoided, quantity of used oil/PCBs/mercury destroyed or recycled, energy savings achieved, and consumer savings realized. An annual report provides partners with information on their progress towards achieving emissions reductions and information about developments in the latest recycling technologies and practices. Through recognition of partner efforts, and the program's promotion of recycling best practices through webinars, web updates, fact sheets, and presentations, non-partners become aware of recycling best practices and can evaluate what best practices could work for them. The RAD program largely serves to disseminate information on recycling best practices and creates a platform for information sharing on recycling and waste management practices. The data collected are used as an indicator of whether industry is reducing emissions from end-of-life appliances.

2. NEED FOR AND USE OF THE INFORMATION COLLECTION

2(a) Need and Authority for the Collection

The RAD program is an important action contributing to the overall reduction of ODS emissions, specifically through increased ODS refrigerant and foam destruction or reclamation, and dissemination of information on recycling best practices and technologies. The RAD program also contributes to the overall reduction of other emissions, solid waste and landfill space used, as well as the removal of energy inefficient appliances off the electrical grid, providing energy savings. The information to be obtained under this ICR is not collected by EPA or any other Federal agency. The refrigerant management program under Section 608 of the Clean Air Act does not collect, nor does it require records, of the data described in this ICR (See 40 CFR 82.155).

EPA is renewing this ICR to continue to collect information from partners participating in the RAD program. By participating in the program, a partner agrees to the terms of information collection specified by EPA in the Partnership Agreement. Specifically, partners agree to submit the Partnership Agreement to EPA, as well as an annual reporting form that details the quantity of materials handled by the partner in their appliance recycling practices and how those materials were handled.

2(b) *Practical Utility and Users of the Data*

The Agency will use the Partnership Agreement to establish a framework for a voluntary agreement with partners in the program. EPA will use information submitted in the annual reports to demonstrate that partners are reducing ODS emissions from appliance recycling operations. Data collected in the annual reports will show individual respondents' emissions reductions benefits. EPA also will use the information to determine trends in partner efforts including: (1) the types, number, average age, and charge levels of refrigerant-containing appliances collected by partner recycling programs, (2) the ultimate fates of appliance components, (3) the energy savings resulting from programs that offer an incentive for removing old appliances from the electricity grid, (4) the amount of emissions avoided, (5) the amount of durable materials prevented from being landfilled, and (6) the number of PCB-containing capacitors and mercury switches properly disposed. In addition, EPA will use the information to publicize partner successes.

EPA may use data submitted by partners to develop documents on technologies and practices and prepare case studies highlighting partner successes. These documents are publicly available and demonstrate what can be achieved through the RAD program.

The RAD program conducts the following activities:

- Developing technical fact sheets
- Hosting technology analysis webinars and roundtable discussions
- Providing support to partners
- Publicizing achievements of partners
- Making available to partners a mechanism for recording and storing information about refrigerant and foam emission reduction activities
- Serving as a technical clearing house on the most environmentally friendly recycling technologies.

In addition to benefitting partner companies, the above activities benefit non-partner companies. Technical documents, annual reports, partner highlights and achievements, and webinars are available to both partners and non-partners. For example, technical documents developed by the Program are made available to the public on the RAD website, and webinar attendance is not restricted to program partners.

The annual reports submitted by partners go through a quality assurance/quality control process to ensure all data are accurate. Any inconsistencies are resolved via direct correspondence with the partner in question. The refrigerant and foam emission reduction data submitted to EPA are used to determine program emission reduction totals and measure the overall partner progress. The practical utility of the information received by EPA is to give partners recognition for their efforts to reduce emissions of end-of-life appliances through recycling and best practices.

3. NONDUPLICATION, CONSULTATIONS, AND OTHER COLLECTION CRITERIA

3(a) Nonduplication

The information obtained under this ICR is not collected by any other EPA program or Federal agency. The information is not available from other sources because it is proprietary information submitted by industry sources.

3(b) Public Notice Request Prior to ICR Submission to OMB

In compliance with the Paperwork Reduction Act of 1995, EPA issued a public notice in the Federal Register (84 FR 2853) on February 8, 2019 soliciting public comments for a 60-day period. One comment was received regarding recycling to build water filtration, storage and shipment facilities for water shortage areas. Appliance recycling and related technologies are not applicable to those referred to by commenter and is not relevant to this ICR or any related rulemaking, so EPA is not providing a specific response. EPA will issue a second notice soliciting public comments for a 30-day period concurrent with the submission of this renewal to OMB.

3(c) Consultations

Recently, EPA's RAD program consulted with existing partners about the time associated with the partnership's reporting activities. EPA contacted existing partners representing all partner categories, recent and long-standing partners, and a wide range of program sizes. The following partners provided input for this ICR:

Partner Category	Partner	Partnership Contact
Utility	Commonwealth Edison	Violeta Gonzalez
Utility	PPL Electric Utilities	Mary Ann Kelly-Merenda
Utility	Puget Sound Energy	Holly Mulvenon
Manufacturer	GE Appliances	Cynthia Broskey
Retailer	Sears Holdings Corporation	Christie Kochis
State	Delaware Department of Health and Social Services	Jarrod Fala

After collecting this feedback, EPA determined that the information included in the original ICR remains accurate. This is largely because partner reporting activities and associated reporting forms have undergone minimal changes since the original ICR. See Section 6 of this ICR for these calculations.

3(d) *Effects of Less Frequent Collection*

EPA requests that the partner submit information on its appliance recycling practices to the Agency once per year. Any reduction in the frequency of this information collection would impede efforts by EPA to evaluate the usefulness of this program to partners. Less frequent collection of data would also place an undue burden on both EPA and partners to ensure accuracy of data. For example, any one data inaccuracy would be compounded by the greater time between actual data collection and the efforts required to correct the historical information.

3(e) *General Guidelines*

This ICR follows all the regulations established by OMB in 5 CFR 1320.5.

3(f) *Confidentiality*

Participation in the RAD program is voluntary. EPA informs the respondents that they may assert claims of business confidentiality for any of the information they submit. Information claimed as confidential will be treated in accordance with the procedures for handling information claimed as confidential under 40 CFR Part 2, Subpart B (“Confidentiality of Business Information”) and will be disclosed only if EPA determines that the information is not entitled to confidential treatment. If no claim of confidentiality is asserted when the information is received by EPA, it may be made available to the public without further notice to the respondents (40 CFR 2.203).

3(g) Sensitive Questions

No questions of a sensitive nature or of matters usually considered private to individuals will be asked.

4. THE RESPONDENTS AND THE INFORMATION REQUESTED

4(a) Respondents/ and NAICS Codes

The North American Industry Classification System (NAICS) codes of entities most likely to be affected by the information collection requirements covered under this ICR are listed below in Table 1.¹

Table 1. NAICS Classification of Affected Industries

Potentially Affected Entities	NAICS Code	NAICS Category
Utilities	2211	Electric Power Generation, Transmission and Distribution
Manufacturers	3352	Household Appliance Manufacturing
Retailers	443141	Household Appliance Stores
Universities	611310	Colleges, Universities, and Professional Schools
Municipality	999300	Local Government

4(b) Information Requested

Partners participating in the RAD program submit a Partnership Agreement to the EPA. The partners also agree to submit the annual reporting form that provides data on materials handled by the appliance recycling program and calculates environmental benefits achieved through the program. Each of these information collections is described separately below, along with the respective data items and respondent activities.

Partnership Agreement

A number of partners worked with EPA to prepare the model Partnership Agreement establishing the terms of participation in the RAD program. Each partner may choose to further

¹ NAICS codes were retrieved from the “2017 NAICS Search” provided by the U.S. Census Bureau at, <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2017>.

work with EPA on their individual agreement and after finalizing the Partnership Agreement, each partner reviews, signs, and submits it to the Agency.

(i) Data Item

- Partnership Agreement

(ii) Respondent Activities

- Prepare the Partnership Agreement in collaboration with EPA (varies by partner);
- Review and sign the Partnership Agreement; and
- Submit the Partnership Agreement to EPA.

Annual Reporting Form

The partner agrees that it will complete an annual reporting form either electronically, using Excel, or manually, using a printed PDF form. The electronic version of the reporting form includes an auto-generated sheet that summarizes the environmental benefits achieved through the Partner's program, based on the data entered for that reporting year. The forms are provided by EPA, and the partner submits the completed form to the Agency.

(i) Data items

The reporting form requests the following information:

- Partner name;
- Reporting period;
- Contact information including names, addresses, phone numbers, fax numbers, and e-mail addresses of a primary and alternative contact;
- Category of the RAD Partner's program (utility, retailer, manufacturer, or state);
- Number of households/stores/states/facilities in the area served by the program;
- Equipment types included in the Partner's program (refrigerators/freezers, stand-alone freezers, window air conditioning units, and/or dehumidifiers);
- Whether the program jointly processes/administers some appliances with another RAD Partner;
- Whether the program actively encourages the disposal of old, working equipment (e.g., provides a financial incentive);

- Contact information for all companies used by a partner’s program to collect/treat appliances and recovered materials in order to fulfill the requirements of the RAD program including:
 - Company name
 - Contact name
 - Phone number
 - Address
 - Company/facility role
 - Foam recovery items (doors, case) and recovery process used
 - Type of technology/equipment used if applicable
- For each type of appliance included in the partner’s recycling program:
 - Total number of units processed;
 - Average age of appliances collected;
 - Number of units processed and processed with refrigerant/foam recovery with each refrigerant and insulating material type;
 - Whether foam was recovered from appliance doors;
 - Method for estimating the total number/amounts of various components processed;
 - Total amount and fate(s) of each appliance component processed;
 - If the program provides an incentive to encourage the disposal of old equipment: the average energy consumed/year/unit and the average energy cost for residential consumers; and
 - Additional comments.
- For partners that jointly process/administer some appliances with another RAD partner: number of units processed with refrigerant/foam recovery for each refrigerant and insulating material type for each appliance type
- Partner feedback on the RAD program; and
- Partner signature.

In the electronic version of the reporting form, the following calculations are automatically

generated for the user:

- Average quantity recovered per unit, calculated based on reported total quantity and number of units processed. The user reviews these calculations and compares them to the typical range reported, included for all the calculations, to perform a quality assurance check on the data provided. No data or additional information is requested.
- Summary of the total quantity and ODS and ODS substitute emissions prevented from being emitted as a result of the user's activities. This page is intended only for the user's interest; no data or additional information is requested.
- Estimates of gross energy impact, if the partner's recycling program provides an incentive to encourage the disposal of old equipment. This page is intended only for the user's interest; no data or additional information is requested.
- Key messages and figures for RAD partners to promote the benefits of their appliance disposal program. This page is intended only for the user's interest; no data or additional information is requested.
- If the program provides an incentive to encourage the disposal of old equipment: the average number of remaining years of useful life of that equipment. This calculation is intended only for the user's interest; no data or additional information is requested.

(ii) Respondent activity

- Partners complete and submit the annual reporting form each calendar year the Partnership Agreement is in effect.

In the electronic version of the reporting form, the following calculations are automatically generated for the user:

- Average quantity recovered per unit, calculated based on reported total quantity and number of units processed. The user reviews these calculations and compares them to the typical range reported, included for all the calculations, to perform a quality assurance check on the data provided. No data or additional information is requested.

- Summary of the ODS and ODS substitute emissions avoided as a result of the user's activities. This page is intended only for the user's interest; no data or additional information is requested.
- Estimates of gross energy impact, if the partner's recycling program provides an incentive to encourage the disposal of old equipment. The user reviews these estimates (which include total saved energy and total dollar savings to residential consumers) and provides corrections if necessary.

5. THE INFORMATION COLLECTED: AGENCY ACTIVITIES, COLLECTION METHODOLOGY, AND INFORMATION MANAGEMENT

5(a) Agency Activities

EPA performs certain activities associated with the Partnership Agreement, the annual reporting forms, and information sharing. Each of these three information collections, and the Agency's activities associated with them, are described in more detail below.

Partnership Agreement

EPA performs the following activities related to the Partnership Agreement for RAD partners:

- Develop the draft Partnership Agreement in collaboration with partner(s);
- Solicit and review stakeholder comments;
- Develop the final Partnership Agreement;
- Disseminate the Partnership Agreement; and
- Review and file the completed Partnership Agreement.

Annual Reporting Form

EPA performs the following activities with regard to the annual reporting form to be submitted by the partners:

- Develop the reporting form;
- Solicit and review stakeholder comments;
- Disseminate the reporting form;

- Review annual reporting forms submitted by partners and aggregate/ analyze the data to estimate aggregate RAD partner emissions reductions;
- Develop a summary annual report; and
- File and maintain copies of the reporting forms.

5(b) *Collection Methodology and Management*

In collecting and analyzing the information associated with this ICR, EPA uses electronic equipment, such as personal computers and applicable database software. EPA also provides hardcopies of all forms at request. EPA will ensure the accuracy and completeness of collected information by reviewing each partner's submitted information. EPA will maintain files of Partnership Agreements and reporting forms.

EPA maintains an Internet web page for this program (www.epa.gov/rad) that facilitates access to general program information and allows interested parties to download relevant documents including guidelines for proper appliance handling, and the annual reporting form.

5(c) *Small Entity Flexibility*

EPA has designed its reporting forms to minimize respondent burden while obtaining sufficient and accurate information. In addition, the burden associated with the partnership is inherently minimized since the initial agreement to participate is voluntary.

5(d) *Collection Schedule*

EPA collects basic partner information in the Partnership Agreement, which is completed and submitted by the partner. EPA collects reporting forms from partners on an annual basis. EPA may collect other program information on a periodic basis or as the information is submitted.

6. ESTIMATING THE BURDEN AND COST OF THE COLLECTION

6(a) *Estimating Respondent Burden*

Table 2 presents the estimated annual respondent burden and costs for information collection activities associated with the RAD program. In the "Hours and costs per respondent or activity" section, Table 2 presents the average burden for each partner, accounting for the

varying labor rates among the four types of partners. Table 2 includes the number of hours required to conduct the information collection activity and the cost associated with each requirement. In developing burden estimates for each information collection requirement in this ICR, EPA consulted with third party stakeholders and considered partner feedback. (See Section 3(c) of this ICR for information on the consultations.) As shown in Table 2, EPA estimates a total average annual respondent burden of approximately 6 hours. Assumptions used in calculating this estimate are described below.

Table 2. Respondent Burden and Cost^a

INFORMATION COLLECTION ACTIVITY	Frequency/ Number of Responses ^b	Per-Activity					Average Hours/Year	Average Cost/Year
		Legal	Manager	Technical	Clerical	Total Labor Hours		
Review the Partnership Agreement	One occurrence per partner; 9 new partners assumed over 3 years	2	2	2	0	6	18.00	\$1,955.46
Complete the Partnership Agreement		0	0.25	0	0	0.25	0.75	\$266.25
Submit the Partnership Agreement to EPA		0	0	0	0.25	0.25	0.75	\$34.29
Subtotal – Partnership Agreements		2	2.25	2	0.25	6.5	19.50	\$2,078.51
Complete and submit first annual report	One occurrence per partner; 9 first annual reports assumed to be completed by partners over 3 years (from 5 partners in Program Year 1, 3 partners in Program Year 2, and 1 partner in Program Year 3)	0	6	0	0.25	6.25	18.75	\$2,164.28
Complete and submit subsequent annual report	Zero to two occurrences per partner over 3 years; 145 subsequent annual reports assumed to be completed over 3 years (from 44 partners in Program Year 1, 49 partners in Program Year 2, and 52 partners in Program Year 3)	0	5	0	0.25	5.25	253.75	\$32,510.01
Subtotal -- Annual Reports							275.50	\$34,674.33
TOTAL (for next 3 yrs of RAD)							292.00	\$36,752.84

^a See Section 6(b) for more information on how respondent burden is estimated.

^b Number of responses is based on the estimated number of new partners over a 3-year period, 2019-2021, as presented in .

^c Labor costs are calculated based on the labor rates presented in Table 3.

6(b) *Estimating Respondent Costs*

Labor Costs

EPA estimates respondent labor costs (hourly rate plus overhead and fringe) based on the average hourly labor rates of the partners. For each partner, EPA estimates average hourly labor rates according to the type of partner – utility, state/municipality, retailer, or manufacturer. These labor rates are based on national averages reported by the Bureau of Labor Statistics, to which 110% is added to reflect the estimated additional costs for overhead and fringe.² Table 3 summarizes the labor rates.

Table 3. Average Hourly Respondent Labor Rates

	Managerial	Technical	Clerical	Legal
Utilities	\$138.39	\$87.68	\$53.24	\$148.53
States/ Municipalities	\$90.95	\$87.19	\$41.43	\$86.86
Retailers	\$102.46	\$116.76	\$32.03	\$94.98
Manufacturers	\$136.12	\$67.52	\$42.25	\$121.97

Capital and Operation and Maintenance (O&M) Costs

The partners participating in the RAD program are not required to incur any notable capital costs under the partnership. The partners normally keep track of their program data as a standard business practice.

The partners participating in the RAD program are not required to incur any notable operation and maintenance (O&M) costs. The partners need only to submit their information to EPA.

6(c) *Estimating Agency Burden and Cost*

Table 4 estimates of average hourly EPA labor costs for legal, managerial, technical, and clerical staff. Table 5 presents the estimated Agency burden hours and costs associated with the information collection activities for this ICR. Agency labor costs are based on national averages

² Labor rates were retrieved from the “May 2017 National Industry-Specific Occupational Employment and Wage Estimates” provided by the U.S. Bureau of Labor Statistics at, <http://www.bls.gov/oes/current/oessrci.htm>.

for the Federal Executive branch reported by the Bureau of Labor Statistics, which are multiplied by 1.6, the standard government benefits multiplier.³ As shown in Table 5, EPA estimates that the annual Agency burden for all activities covered in this ICR is 1,181 hours at a total cost of \$82,606 per year.

Table 4. Average Hourly Agency Labor Rates

Managerial	Technical	Clerical	Legal
\$94.56	\$62.27	\$35.09	\$87.41

³ Labor rates were retrieved from the “May 2017 National Industry-Specific Occupational Employment and Wage Estimates” for the Federal Executive Branch (NAICS Code 999100) provided by the U.S. Bureau of Labor Statistics at, http://www.bls.gov/oes/current/naics4_999100.htm.

Table 5. Agency Burden and Cost^a

INFORMATION COLLECTION ACTIVITY	Frequency/ Number of Activities	Hours						Costs	
		Legal Hours per Activity	Manager Hours per Activity	Technical Hours per Activity	Clerical Hours per Activity	Total Labor Hours per Activity	Average Total Hours/Year	Total Labor Cost per Activity ^b	Average Cost/Year
Partnership Agreement									
Disseminate the Partnership Agreement	One occurrence per partner; 9 new partners assumed over 3 years.	0	0	0	0.25	0.25	0.75	\$8.77	\$26.32
Review the completed Partnership Agreement		0	0	0.5	0	0.5	1.5	\$31.14	\$93.41
Subtotal		0	0	0.5	0.25	0.75	2.25	\$39.91	\$119.72
Annual Report									
Disseminate the reporting form	One occurrence per year	0	0	0	1	1	1.0	\$35.09	\$35.09
Review annual reports and analyze data	One occurrence per reporting form submitted (total of 154 over 3 years) ^c	0	5	15	0	20	1026.67	\$1,406.88	\$72,219.84
Develop summary annual report	One occurrence per year	0	25	75	0	100	100	\$7,034.40	\$7,034.40
File and maintain copies of annual reports	One occurrence per reporting form submitted (total of 154 over 3 years) ^c	0	0	1	0	1	51.33	\$62.27	\$3,196.63
Subtotal							1179.0		\$82,485.96
TOTAL (for next 3 yrs. of RAD)							1181.25		\$82,605.68

^a See Sections 6(c) and 6(d) for more information on how Agency burden is estimated.

^b Labor costs are calculated based on the labor rates presented in Table 4.

^c Number of partner responses is based on the estimated number of new partners over a 3-year period, as presented in .

6(d) Estimating the Respondent Universe and Total Respondent Burden and Costs

summarizes the number of partners expected to participate in the RAD Program during the three-year effective life of this ICR. EPA currently has 43 partners and is expecting one additional partner by the end of 2018 giving 44 by the beginning of the first year. Five new partners are anticipated in 2019 giving 49 partners by the start of the second year and 3 new partners in 2020 giving a total of 52 partners by the start of the third year. also breaks down the new and existing partners each year by the four different types of partners in the program. The following paragraphs discuss the information collections these partners will perform under the partnership. Table 2 calculates the annual burden and cost to partners in performing these collections

Table 6: Estimated Number of Program Partners by Partner Type

Type of Partner	2019	2020	2021	Average (For Three Year lifetime of ICR)
Utilities				
<i>New</i>	2	1	1	1
<i>Existing</i>	38	40	41	40
Retailers				
<i>New</i>	1	0	0	0
<i>Existing</i>	3	4	4	4
States/Municipalities				
<i>New</i>	2	1	0	1
<i>Existing</i>	2	4	5	4
Manufacturers				
<i>New</i>	0	1	0	0
<i>Existing</i>	1	1	2	1
Total				
<i>New</i>	5	3	1	3
<i>Existing</i>	44	49	52	48

Partnership Agreement

As shown in , EPA estimates that, over the three-year life of this ICR, an average of 48 partners will participate in the partnership. All partners must review, sign and submit the Partnership Agreement to EPA to begin their participation in the RAD program. As shown in Table 2, EPA has annualized the one-time burden of Partnership Agreement preparation over three years to estimate that on average 3 new partners will prepare and submit a Partnership Agreement each year. Note that Table 2 calculates respondent burden and costs on an annual basis. The table calculates the burden and cost of one-time activities (i.e., activities performed once during the three-year period of this ICR) by dividing the total number of respondents by three.

Annual Reporting Form

Each partner agrees to complete an annual reporting form to be submitted to the Agency. The report will contain data on the types of appliances handled and the fates of each appliance component. In estimating burden and costs for this information collection, EPA believes that new partners will incur a greater burden in preparing their first report (i.e., for their first year of membership), than in preparing reports for their subsequent years of membership. That is, new partners may encounter a one-time learning curve in compiling and examining data for their “first-year” reporting forms. After gaining such experience, these partners would likely incur a lower burden in preparing their “subsequent-year” reports.

As shown in Tables 2 and 6, EPA estimates that an average of 3 partners each year will be new to the partnership and that each will incur about 6 hours in preparing and submitting their first-year reports to the Agency. EPA further estimates that, over the three-year life of this ICR, 48 partners will submit subsequent-year reports to the Agency each year and incur about 5 hours per report.

6(e) Bottom Line Burden Hours and Costs

Respondent Tally

In Table 2, EPA estimates the total annual respondent burden and cost for the Responsible Appliance Disposal partnership to be approximately 292 hours and \$36,753.

Agency Tally

As shown in Table 5, the annual Agency burden and cost are estimated to be approximately 1,181 hours and \$82,606 per year.

Variations in the Annual Bottom Line

EPA anticipates no significant variation in the annual respondent reporting and/or recordkeeping burden over the next three years.

6(f) *Reasons for Change in Burden*

This is the first renewal of the ICR for the RAD program. Adjustments have been made to the number of partners expected to participate in the RAD program during the three-year effective life of this renewal ICR in order to better reflect the current state of the industry.

6(g) *Burden Statement*

The annual reporting burden for this information collection is estimated to average approximately 6 hours per response. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 1.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this ICR under Docket ID Number EPA-HQ-OAR-2007-0358, which is available for online viewing at www.regulations.gov, or in person viewing at the Air Docket in the EPA Docket Center

(EPA/DC), EPA West Room 3334, 1301 Constitution Avenue, NW, Washington, D.C. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742. An electronic version of the public docket is available at www.regulations.gov. This site can be used to submit or view public comments, access the index listing of the contents of the public docket, and to access those documents in the public docket that are available electronically. When in the system, select “search,” then key in the Docket ID Number identified above. Also, you can send comments to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, D.C. 20503, Attention: Desk Officer for EPA. Please include the EPA Docket ID Number EPA-HQ-OAR-2007-0358 and OMB Control Number 2060-0703 in any correspondence.

7. SUPPLEMENTARY INFORMATION

7(a) *Guidance Document for Existing and Prospective Partners*

Responsible Appliance Disposal (RAD) Program: Guidance for Existing and Prospective Partners



Partners in EPA's Responsible Appliance Disposal (RAD) program help protect the ozone layer and reduce emissions of greenhouse gases (GHGs) by disposing of old, inefficient refrigerated appliances using the best environmental practices available. By meeting program requirements and going above what is required by law to remove appliance foam, partners can reduce emissions of ozone-depleting substances (ODS) and GHGs, and will be publicly recognized for doing so. RAD partners also help keep communities safe by ensuring that hazardous materials, such as mercury, polychlorinated biphenyls (PCBs), and used oil, are not released into the environment.

Joining the program may also serve as a way to document efforts, voluntary commitments, or pledges to reduce GHG emissions. In addition, partners that actively encourage the removal of old appliances from the electricity grid (e.g., by providing monetary incentives for old, working appliances) will also reduce energy demand and GHG emissions associated with electricity generation.

What does proper disposal of refrigerated appliances entail?

Responsible disposal of refrigerated appliances involves:

- Proper recovery and reclamation or destruction of refrigerant
- Proper recovery and reclamation or destruction of insulating foam
- Safe disposal of hazardous waste products, including PCBs and mercury
- Proper recycling of used oil
- Recycling all recoverable, durable materials including metal, plastic, and glass, to the extent possible

Refrigerant

Under Section 608 of the 1990 Clean Air Act Amendments and the implementing regulations at [40 Code of Federal Regulations \(CFR\) § 82\(f\)](#), no refrigerant may be vented during the disposal of appliances¹ (40 CFR § 82.154); therefore, refrigerant must be recovered at equipment end-of-life. Refrigerant must be properly recovered using [EPA-certified refrigerant recovery equipment](#), meaning that at least 90% of the refrigerant must be recovered if the compressor is operating, and at least 80% must be

recovered otherwise; alternatively, the refrigerant can be evacuated to 4 inches of mercury vacuum (40 CFR § 82.156). Refrigerant must either be [reclaimed](#) by an [EPA-certified reclaimer](#) (see 40 CFR § 82.164) for reuse, or destroyed using approved destruction methods (see [40 CFR § 82\(a\)](#)) in accordance with applicable federal, state, and local environmental regulations.

Foam

To prevent emissions of the foam blowing agent to the atmosphere, RAD partners agree to remove the insulating foam prior to the disposal of the appliance, either manually or by using an automated system. Partners then either send the insulating foam to a destruction facility, or use advanced technology to mechanically separate the liquid blowing agent for reclamation or destruction.

Foam Processing Technologies

Manual foam recovery is performed using saws to cut through appliances and expose the foam insulation, which is then removed by scraping or "fileting." Once manually removed, appliance foam is bagged with the blowing agent intact and sent for destruction at a waste-to-energy facility. This method is estimated to

¹ See § 82.154 for exceptions.

achieve a blowing agent recovery efficiency of 85%, meaning that only 15% of the blowing agent is released to the environment.

Semi-automated foam recovery is when foam is manually recovered from an appliance, but is then processed using automated technologies to recover the blowing agent from the appliance foam. The automated technologies capture the foam-blowing agent under negative pressure and condense it into liquid form, which is bottled and sent off-site for reclamation or destruction. This method is estimated to achieve a blowing agent recovery efficiency of 85%, meaning that only 15% of the blowing agent is released to the environment.

Fully automated foam recovery and processing uses automated technologies that both recover and process appliance foam in one step. These technologies shred the whole appliance (with foam intact) in fully enclosed equipment following the removal of refrigerant, used oil, appliance doors, and interior glass and metal shelving. This process results in the highest blowing agent recovery efficiency—estimated at 95%, meaning that only 5% of the blowing agent is released to the environment.

PCBs

PCBs are regulated by EPA as toxic substances ([40 CFR § 761](#)). PCBs may cause cancer and liver damage, and can have negative impacts on the neurological development of children, the human reproductive system, the immune system, and the endocrine system. PCBs are most likely to be found in a capacitor. If the capacitor does not state “contains no PCBs” or the capacitor (or refrigerator) was manufactured before 1979, assume that the capacitor contains PCBs (see 40 CFR § 761.2 (a)(4) for PCB concentration assumptions and 40 CFR § 761.3 for definitions). Storage of PCB capacitors, which are regulated for disposal, must be for no more than one year and must be in accordance with 40 CFR § 761.65. EPA-approved storage and disposal companies can assist you in properly handling any PCB capacitors recovered from appliances. To find an EPA-approved PCB storage or disposal facility near you, visit <https://www.epa.gov/pcbs/disposal-and-storage-polychlorinated-biphenyl-pcb-waste>.

Mercury

Mercury is regulated by EPA as a toxic substance. Potential adverse health effects from exposure to mercury include tremors, headaches, respiratory failure, reproductive and developmental abnormalities, and potentially, cancers. Therefore, in accordance with federal hazardous waste regulations ([40 CFR § 273](#)), mercury waste, such as switches and relays, must be recovered from appliances prior to disposal or shredding, sent to a qualified recovery facility that has appropriate hazardous waste management permits, and managed in accordance with applicable federal, state, and local hazardous waste regulations (e.g., waste must be properly packaged prior to transport) ([40 CFR § 273](#)). For more information on the regulatory requirements specific to mercury waste, visit <http://www.epa.gov/mercury/environmental-laws-apply-mercury>. For more information on the proper storage of hazardous waste, visit EPA's [Hazardous Waste](#) webpage. The federal hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA) can be found at [40 CFR § 260-279](#).

Used oil

If improperly handled, used oil can leak into groundwater and major waterways and pollute drinking water sources. Used oil from appliances may contain toxic chemicals and heavy metals that are dangerous to human health. Therefore, used oil removed from appliances must be properly managed in accordance with the federal used oil management standards ([40 CFR § 279](#)), or the equivalent state regulations. Before recycling and disposal, used oil must be stored in appropriate containers in good condition and with no visible leaks ([40 CFR § 279](#)). Per the RCRA used oil rebuttable presumption, refrigerant contaminating the used oil should be recovered. Used oil removed from refrigerated appliances cannot be mixed with used oil from other sources ([40 CFR § 279](#)).

Where can I find more information?

Visit EPA's RAD Program website at <https://www.epa.gov/rad>.

7(b) Partnership Agreement Form



EPA'S RESPONSIBLE APPLIANCE DISPOSAL (RAD) PROGRAM EXAMPLE PARTNERSHIP AGREEMENT

This voluntary partnership agreement ("Agreement") between _____ (Partner name) (herein referred to as the "Partner") and the U.S. Environmental Protection Agency ("EPA") reflects the Partner's commitment to participate in EPA's Responsible Appliance Disposal Program (herein referred to as the "Program"). The Partner and EPA are referred to collectively as the "Parties" in this Agreement. The goal of the voluntary Program is to reduce emissions of ozone-depleting substances (ODS) and greenhouse gases (GHGs) through the collection and proper disposal of refrigerant-containing appliances. This Agreement takes effect when signed by both Parties. As described in the "Dispute Resolution" section of this document, either Party can terminate this Agreement.

The Program promotes the proper disposal of older household appliances, namely refrigerators, freezers, window air conditioning units, and dehumidifiers, in order to prevent emissions of ODS and GHG refrigerants and foam-blowing agents. The Program is also expected to save landfill space, save energy used by older appliances, lead to the recovery of valuable materials for use in making new products (e.g., metals, plastics, glass), and prevent the release of hazardous substances—including PCBs, mercury, and used oil. The responsibilities of each Party are summarized below.

EPA'S RESPONSIBILITIES

- Serve as a technical clearinghouse on responsible appliance disposal program development and implementation.
- Calculate annual and cumulative Program benefits in terms of ODS and GHG emission savings and equivalents and, as available, potential cost savings.
- Provide Partner recognition for achievements through press releases, brochures, articles, awards, case studies, and/or social media.
- All information submitted to EPA will be treated in accordance with the EPA regulations at 40 CFR Part 2, including the provisions on protecting confidential business information (CBI). For information to be treated as CBI, it must be designated as CBI at the time of submittal. EPA will protect CBI to the maximum extent of the law.

PARTNER RESPONSIBILITIES

- Encourage the retirement of old, energy inefficient refrigerators, freezers, window air conditioning units, and dehumidifiers, and implement best practices for the recycling/disposal of these units, including: proper recovery and reclamation or destruction of refrigerants; proper recovery and reclamation or destruction of insulating foam; safe disposal of hazardous waste products, including PCBs and mercury; proper recycling of used oil; and recycling of all recoverable, durable materials.
- Consistent with the RAD program objectives, report available information annually including: the number of appliances collected; type and quantity of refrigerants reclaimed/destroyed; type and quantity of foam blowing agent reclaimed/destroyed; weight of metals, plastics, and glass recycled; and quantity of hazardous waste products managed and used oil recovered.
- Exchange information on RAD program development/implementation and best practices with other RAD program partners.
- Appoint a representative as RAD Program Coordinator and notify EPA of any change in the designated liaison.

PROGRAM EXPECTATIONS

Proper recovery and management of refrigerant: Under Section 608 of the 1990 Clean Air Act Amendments and the implementing regulations at 40 CFR Part 82 Subpart F, no refrigerant may be vented during the disposal of appliances¹ (40 CFR § 82.154); therefore, refrigerant must be recovered at equipment end-of-life. Refrigerant must be properly recovered, meaning that at least 90% of the refrigerant must be recovered if the compressor is operating, and at least 80% must be recovered otherwise; alternatively, the refrigerant can be evacuated to four inches of mercury vacuum (40 CFR § 82.156(h)). Refrigerant must either be reclaimed by an EPA-certified reclaimer (see 40 CFR §82.164) for reuse, or destroyed using approved destruction methods (see 40 CFR Part 82 Subpart A) in accordance with applicable federal, state, and local environmental regulations.

Proper recovery and management of mercury: Mercury waste, such as switches and relays, must be recovered from appliances prior to disposal or shredding, sent to a qualified recovery facility that has appropriate hazardous waste management permits, and managed in accordance with applicable federal, state, and local hazardous waste regulations (e.g., waste must be properly packaged prior to transport) (40 CFR § 273). The federal hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA) can be found in Title 40 of the Code of Federal Regulations, Parts 260 - 279. The Partner should consult the appropriate state agency to determine whether the state regulatory hazardous waste requirements differ from federal requirements.

Proper recovery and management of used oil: Any used oil recovered from refrigeration units must be managed in accordance with the federal standards outlined in 40 CFR 279 or the equivalent state regulations. Before recycling and disposal, used oil must be stored in appropriate containers in good condition and with no visible leaks (40 CFR 279). Per the RCRA used oil rebuttable presumption, refrigerant contaminating the used oil should be recovered. Used oil removed from refrigerated appliances cannot be mixed with used oil from other sources (40 CFR 279).

Proper recovery and management of PCBs: PCBs are most likely to be found in a capacitor. If the capacitor does not state "contains no PCBs" or the capacitor (or refrigerator) was manufactured before 1979, assume that the capacitor contains PCBs (see 40 CFR 761.2 (a)(4) for PCB concentration assumptions and 40 CFR 761.3 for definitions). If the capacitor contains PCBs, which are regulated for disposal, and is leaking, then disposal of the capacitor must be in accordance with 40 CFR 761.62(a) or (c). If the capacitor contains PCBs, which are regulated for disposal, and is not leaking, then disposal of the capacitor must be in accordance with 40 CFR 761.60(b)(2). Storage of PCB capacitors, which are regulated for disposal, must be for no more than one year and must be in accordance with 40 CFR 761.65.

Proper recovery and reclamation or destruction of foam blowing agent: Partner agrees to remove foam from appliances and reclaim or destroy foam blowing agent using approved destruction methods (see 40 CFR Part 82 Subpart A).

GENERAL TERMS

- This is a non-binding statement of the Parties' mutual understandings. This Agreement is not legally binding and does not create any right, obligation or benefit enforceable by law or equity against the EPA or the Partner, or any other person. This Agreement applies only to EPA and the Partner.
- The Partner agrees that the activities it undertakes connected with this Agreement are not intended to provide services to the federal government and that the Partner will not submit a claim for compensation to any federal agency/department.
- The Partner agrees that it will not claim or imply that its participation in the RAD program constitutes EPA approval or endorsement of anything other than the commitment to the RAD program.
- The Parties shall act in an independent capacity and not as officers or employees or agents of each other.

¹ See §82.154 for exceptions.

undertaken:

- Within 30 days of receiving formal notification from a Party indicating intent to terminate the Agreement (the "Terminating Party"), either as a whole or in part, the other Party (the "Non-Terminating Party") will reply, agreeing to either (1) undertake in a timely and effective manner the corrective actions sought by the Terminating Party, or (2) terminate the Agreement, either as a whole or in part.
- If the Non-Terminating Party fails to respond within 30 days of receiving formal written notification of Terminating Party's intent to terminate the Agreement, either as a whole or in part, or if the Non-Terminating Party responds but does not agree to undertake corrective actions sought by the Terminating Party, or if the Non-Terminating Party agrees but does not initiate the corrective actions in a timely manner, then this Agreement shall be terminated upon the expiration of such 30 days.
- Termination of this Agreement does not preclude the Parties from reinstating the Agreement if all matters have been resolved to the satisfaction of both Parties.

The undersigned representatives execute this Agreement on behalf of the Parties.

Authorized Company Representative: _____ Title: _____

Signature: _____ Date: _____

Bella Maranion, Chief, Alternatives and Emissions Reduction Branch, Stratospheric Protection Division, U.S. EPA

EPA Signature: _____ Date: _____

Please identify your organization's designated Responsible Appliance Disposal Program Coordinator:

Name: _____ Title: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____ Email: _____

For more information about the Responsible Appliance Disposal Program contact:

**Sally Hamlin
U.S. EPA, MC 6205T
1200 Pennsylvania Ave, NW, Washington, DC 20460
Phone: (202) 343-9711 Fax: (202) 343-2342**

7(c) Annual Reporting Form for Partners



OMB Control Number: 2060-0703
Expiration Date: 8/31/2021

United States
ENVIRONMENTAL PROTECTION AGENCY
Washington, DC 20460

Responsible Appliance Disposal (RAD) Program Annual Reporting Form
Office of Air & Radiation

INTRODUCTION

The U.S. EPA's Responsible Appliance Disposal (RAD) program for utilities, manufacturers, retailers, states, and other qualifying organizations is a voluntary program that helps protect the ozone layer and reduce emissions of greenhouse gases. Through the Program, partners dispose of old refrigerators, freezers, dehumidifiers, and window air-conditioning units using the best environmental practices available and going beyond what is required by federal law.

This reporting form will allow EPA to track and quantify the environmental benefits achieved by your program, and ultimately, those achieved by the RAD program as a whole.

CONFIDENTIALITY

All information submitted to EPA will be treated in accordance with the EPA regulations at 40 CFR Part 2, including the provisions on protecting confidential business information (CBI). For information to be treated as CBI, it must be designated as CBI at the time of submittal. EPA will protect CBI to the maximum extent of the law.

INSTRUCTIONS

Please complete all worksheets that are applicable to your program. Within each worksheet, please provide information for all fields requested. The purpose of each worksheet and the type of information requested in each is outlined below. Please ensure that all of the following steps have been completed before submitting the reporting form.

Step 1: Contact and Program Information

Provide your contact and program information.

Step 2: Third-Party Information

Enter contact information for and details about all companies providing appliance collection and processing services under your program.

Step 3: Activity Data on Processed Units

Complete a Step 3 worksheet for each appliance type included in your program.

There are separate worksheets for Refrigerators, Stand-Alone Freezers, Air Conditioning Units, and Dehumidifiers. For each type of appliance processed by your program, complete the worksheet to provide the number of units processed and the amounts of materials/components recovered from those units.

Step 4: Units Handled Jointly by Your Organization and Another RAD Partner

Complete this worksheet if any appliances were jointly processed by your organization and another RAD partner. When reporting the units by refrigerant type and blowing agent type, report only the units processed with refrigerant recovery and foam recovery, respectively.

Step 5: Summary of Input Data for Quality Assurance and Program Benefits

- a) Review Step 5 Summary of Input Data for Quality Assurance worksheet to ensure that the information entered in the Step 3 worksheets is accurate. This worksheet is used for quality assurance purposes and does not require any data input.
- b) Review Step 5 Summary of Program's Environmental Benefits and Step 5 Summary of Program's Gross Energy Impacts from Removal of Old Units worksheets to learn about the environmental and/or energy impacts associated with your program.
- c) Review Step 5 Key Messages and Figures to Promote Program's Benefits worksheet to access key messages and figures that can help you promote the benefits achieved by your program.

Step 6: Partner Feedback

Provide qualitative information on your program and any input on the RAD program.

Step 7: Confirmation

Check and sign a statement confirming that all information provided in this form is accurate, to the best of your knowledge.

DEFINITIONS

Recover: To remove a material (in any condition) from an appliance and then store it externally without necessarily testing or processing it in any way.

Reclaim: To reprocess ODS and ODS substitutes using specialized machinery to all of the specifications in appendix A to 40 CFR part 82, subpart F (based on ARI Standard 700-1995, Specification for Fluorocarbons and Other Refrigerants), and to verify using the analytical methodology prescribed in section 5 of appendix A of 40 CFR part 82, subpart F.

Stockpiling with Intent to Reclaim: To store refrigerant or foam-blowing agent on-site at the recycling facility where the unit was processed with the intent of later reclaiming the substance(s).

Recycle: To extract material from an appliance and process it for reuse. Recycling durable components, such as metals, rubber, plastic, and glass, entails reprocessing them for future use in other manufactured products, and not reuse of the appliance itself. When recycling used oil, refrigerants must be recovered from the used oil to the fullest extent possible, and the used oil cannot be mixed with used oil from sources other than refrigeration units.

Destroy: To cause the expiration of a controlled substance. Destruction does not result in a commercially useful end product. For refrigerant or foam-blowing agent, destruction must be performed in accordance with the guidelines in 40 CFR §82.3. For PCBs, which are found in capacitors manufactured before 1980, destruction must be in accordance with 40 CFR §761.

Stockpiling with Intent to Destroy: To store refrigerant or foam-blowing agent on-site at the recycling facility where the unit was processed with the intent of later destroying the substance(s).

Dispose: Mercury waste, such as switches and relays, must be recovered from appliances prior to disposal or shredding, sent to a qualified recovery facility that has appropriate hazardous waste management permits, and managed in accordance with applicable federal, state, and local hazardous waste regulations (e.g., waste must be properly packaged prior to transport). The federal hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA) can be found in 40 CFR §260 - 279. Used oil must be disposed in accordance with 40 CFR §279.81.

Energy Cost for Residential Consumers (\$/kWh): The energy cost paid by consumers, which may include a customer charge, distribution charge, transmission charge, transition charge, generation service charge, or other charges based on the electricity pricing scheme in your region.

SEND COMPLETED FORMS VIA EMAIL TO:

Sally Hamlin, Stratospheric Protection Division
Hamlin.Sally@epa.gov

BURDEN STATEMENT

The public reporting and recordkeeping burden for this collection of information is estimated to average 6 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

EPA ICR NUMBER: 2254.02, Revised 1/2018



United States
ENVIRONMENTAL PROTECTION AGENCY
 Washington, DC 20460

Step 1: Contact and Program Information

Instructions: Provide your contact and program information (Tables A and B) on this page.

A. Contact Information

Name of RAD Partner: Reporting Period: to

<u>Primary Contact:</u>		<u>Alternate Contact:</u>	
Contact Name	<input type="text"/>	Contact Name	<input type="text"/>
Address	<input type="text"/>	Address	<input type="text"/>
	<input type="text"/>		<input type="text"/>
Phone	<input type="text"/>	Phone	<input type="text"/>
Fax	<input type="text"/>	Fax	<input type="text"/>
E-mail Address	<input type="text"/>	E-mail Address	<input type="text"/>

B. Program Information

Please select the RAD partner category your program falls under:

Indicate which appliance types are included in your program:

Refrigerators	<input type="checkbox"/>
Stand-Alone Freezers	<input type="checkbox"/>
Air-Conditioning Units	<input type="checkbox"/>
Dehumidifiers	<input type="checkbox"/>

Does your program jointly process/administer some appliances with another RAD partner?

Does your program provide an incentive (e.g., financial) to encourage disposal of old, working refrigerated appliances?

EPA ICR NUMBER: 2254.02, Revised 11/2018



United States
ENVIRONMENTAL PROTECTION AGENCY
Washington, DC 20460

Step 2: Third-Party Information

Instructions: In Tables A-E below, please indicate the contact information for all companies used by your program to collect/treat appliances and recovered materials in order to fulfill the requirements of the RAD program. Indicate an "x" for the role fulfilled by each company. Note that you may need to contact third-party providers in order to obtain the names and addresses of the companies that provide the services specified. Please add additional rows if needed.

A. Haul-Away and Demanufacturing Companies

Company Name	Contact Name	Phone Number	Address	Company Role					
				Appliance Haul-Away	Refrigerant Recovery	Foam/Blowing Agent	Mercury Recovery	Used Oil Recovery	PCBs Recovery
Example Company A	John Smith	123-456-7890	123 Street Name	x	x		x	x	x

B. Refrigerant Reclamation and Destruction Facilities

Company Name	Contact Name	Phone Number	Address	Facility Role		Type of Destruction Technology (if applicable)
				Reclamation	Destruction	

C. Foam/Blowing Agent Recovery Process

Please use an "x" in the appropriate column to indicate the appliance items from which foam is recovered and the foam recovery process used.

Company Name	Foam Recovery Items		Foam/Blowing Agent Recovery Process				Name of Automated Technology/Equipment Type (if an automated technology is selected) ²
	Doors	Case	Manual (saw and scrape/filet) ¹	Semi-Automated (saw, scrape/filet, and process to recover blowing)	Fully Automated (appliance processed whole to recover blowing)	Other: please describe	
Example Company B		x		x			SEG

¹ Manual: The appliance is deconstructed with the use of hand or electric saws; foam is removed manually by scraping or filing. The foam is then destroyed with the blowing agent intact.
² Semi-Automated: The appliance is deconstructed with the use of hand or electric saws; the intact foam panels are then processed using an automated technology to recover the blowing agent.
³ Fully Automated: The whole appliance is processed using an automated technology to recover the blowing agent.
⁴ For example, Adelmann, SEG, and URT.

D. Foam/Blowing Agent Reclamation and Destruction Facilities

Facility Name	Contact Name	Phone Number	Address	Facility Role		Type of Destruction Technology (if applicable)
				Reclamation	Destruction	

E. Hazardous Materials Recycling and Disposal Facilities

Facility Name	Contact Name	Phone Number	Address	Facility Role		
				Recycling/ Disposal of Used Oil	Disposal of PCBs	Disposal of Mercury



United States
ENVIRONMENTAL PROTECTION AGENCY
 Washington, DC 20460

Step 3: Activity Data on Refrigerators

MM/DD/YYYY to MM/DD/YYYY

Instructions: All partners should complete Tables A and B. If your program provides an incentive (e.g., financial) to encourage the disposal of old, working refrigerated appliances, please also complete Table C. When populating cells, please use the units provided; do not add text to specify units. This form only recognizes numbers.

A. Units Processed

Please complete the gray cells below. Enter the total number of units processed by your program by refrigerant type and insulating material type in column D. Specify the number of units processed with refrigerant recovery and foam recovery in cells E11 to E13 and cells E16 to E22, respectively, and whether foam was recovered from appliance doors (cells F16 to F19). Also, provide the average age of appliances collected (cell D9), and whether the information on refrigerant and blowing agent types is based on assumptions or data (cells F11 to F13 and cells G16 to G22, respectively). If any of the units reported in column D were jointly processed/administered with another RAD Utility, Retailer, Manufacturer, or State Partner, please indicate the number of these units in Step 4 - Units Jointly Processed; the units reported in this table should be inclusive of the units reported in Step 4. If you wish to provide additional information (e.g., regarding types of refrigerants or insulating materials not listed below) or highlight uncertainties in your reporting, please do so in the "Comments" box.

Total Number of Units Processed					
Average Age of Appliances Collected (yrs)					
Refrigerant Type	Total Number of Units Processed	Number of Units Processed with Refrigerant Recovery	Refrigerant Type Based On:	Comments:	
CFC-12					
HFC-134a					
Other					
Total	0	0			
Insulating Material Type	Total Number of Units Processed	Number of Units Processed with Foam Recovery	Was Foam Recovered From Appliance Doors?	Insulating Material Type Based On:	Comments:
CFC-11 Blowing Agent					
HCFC-141b Blowing Agent					
HFC-134a Blowing Agent					
HFC-245fa Blowing Agent					
Cyclopentane Blowing Agent					
Fiberglass					
Other					
Total	0	0			

B. Fate and Quantity of Substances Recovered

Please complete the table below to provide the total amount of appliance components recovered by your program during the current reporting period. If any substances recovered during the current reporting period are currently in storage, please report on the *intended* fate of the substance (e.g., stockpiling with intent to reclaim/destroy). Refer back to the Instructions & Definitions tab for definitions of the fates for each component. For any fields that do not apply to your program, please enter "0" under "Total Amount" in column F. For every non-zero value entered in column F, indicate whether the quantity specified is based on actual measurements or on assumptions by selecting the appropriate option in column H. If you wish to clarify uncertainties about the data provided, or wish to provide further information, please use the space for "Additional Comments" at the bottom of this worksheet.

Appliance Component	Fate of Component	Total Amount	Total Amount Based On:
Refrigerant (including that recovered from compressor oil)	CFC-12		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	HFC-134a		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	CFC-11		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	HCFC-141b		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	

Foam-Blowing Agent*	Stockpiling with Intent to Destroy	(lb)	
	HFC-134a		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	HFC-245fa		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
Used Oil	Recycled	(gal)	
	Disposed	(gal)	
Metal	Ferrous Metal Recycled	(lb)	
	Non-Ferrous Metal Recycled	(lb)	
Plastic	Recycled	(lb)	
Glass	Recycled	(lb)	
PCB-Containing Capacitors	Destroyed	(# of capacitors)	

*Foam-blowing agent typically represents only 10% of the total foam weight.

C. Energy Savings

Please complete the table below if your program provides an incentive (e.g., financial) to encourage the disposal (i.e., without replacement) of old, working refrigerated appliances.

Average Number of Remaining Years of Useful Life	
Average Energy Consumed/Year/Unit (kWh)	
Average Energy Cost for Residential Consumers (\$/kWh)	
<i>[please provide the average cost during the current program period]</i>	

Additional Comments:	
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EPA ICR NUMBER: 2254.02, Revised 11/2018



United States
ENVIRONMENTAL PROTECTION AGENCY
 Washington, DC 20460

Step 3: Activity Data on Stand-Alone Freezers

MM/DD/YYYY to MM/DD/YYYY

Instructions: All partners should complete Tables A and B. If your program provides an incentive (e.g., financial) to encourage the disposal of old, working refrigerated appliances, please also complete Table C. When populating cells, please use the units provided; do not add text to specify units. This form only recognizes numbers.

A. Units Processed

Please complete the gray cells below. Enter the total number of units processed by your program by refrigerant type and insulating material type in column D. Specify the number of units processed with refrigerant recovery and foam recovery in cells E11 to E14 and cells E17 to E23, respectively, and whether foam was recovered from appliance doors (cells F17 to F20). Also, provide the average age of appliances collected (cell D9), and whether the information on refrigerant and blowing agent types is based on assumptions or data (cells F11 to F14 and cells G17 to G23, respectively). If any of the units reported in column D were jointly processed/administered with another RAD Utility, Retailer, Manufacturer, or State Partner, please indicate the number of these units in Step 4 - Units Jointly Processed; the units reported in this table should be inclusive of the units reported in Step 4. If you wish to provide additional information (e.g., regarding types of refrigerants or insulating materials not listed below) or highlight uncertainties in your reporting, please do so in the "Comments" box.

Total Number of Units Processed					
Average Age of Appliances Collected (yrs)					
Refrigerant Type	Total Number of Units Processed	Number of Units Processed with Refrigerant Recovery	Refrigerant Type Based On:	Comments:	
CFC-12					
HCFC-22					
HFC-134a					
Other					
Total	0	0			
Insulating Material Type	Total Number of Units Processed	Number of Units Processed with Foam Recovery	Was Foam Recovered From Appliance Doors?	Insulating Material Type Based On:	Comments:
CFC-11 Blowing Agent					
HCFC-141b Blowing Agent					
HFC-134a Blowing Agent					
HFC-245fa Blowing Agent					
Cyclopentane Blowing Agent					
Fiberglass					
Other					
Total	0	0			

B. Fate and Quantity of Substances Recovered

Please complete the table below to provide the total amount of appliance components recovered by your program during the current reporting period. If any substances recovered during the current reporting period are currently in storage, please report on the *intended* fate of the substance (e.g., stockpiling with intent to reclaim/destroy). Refer back to the Instructions & Definitions tab for definitions of the fates for each component. For any fields that do not apply to your program, please enter "0" under "Total Amount" in column F. For every non-zero value entered in column F, indicate whether the quantity specified is based on actual measurements or on assumptions by selecting the appropriate option in column H. If you wish to clarify uncertainties about the data provided, or wish to provide further information, please use the space for "Additional Comments" at the bottom of this worksheet.

Appliance Component	Fate of Component	Total Amount	Total Amount Based On:
Refrigerant (including that recovered from compressor oil)	CFC-12		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	HCFC-22		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	HFC-134a		
	Reclaimed	(lb)	
Stockpiling with Intent to Reclaim	(lb)		
Destroyed	(lb)		
Stockpiling with Intent to Destroy	(lb)		
CFC-11			

	Reclaimed		(lb)	
	Stockpiling with Intent to Reclaim		(lb)	
	Destroyed		(lb)	
	Stockpiling with Intent to Destroy		(lb)	
	HCFC-141b			
	Reclaimed		(lb)	
	Stockpiling with Intent to Reclaim		(lb)	
	Destroyed		(lb)	
	Stockpiling with Intent to Destroy		(lb)	
	HFC-134a			
	Reclaimed		(lb)	
	Stockpiling with Intent to Reclaim		(lb)	
	Destroyed		(lb)	
	Stockpiling with Intent to Destroy		(lb)	
	HFC-245fa			
	Reclaimed		(lb)	
	Stockpiling with Intent to Reclaim		(lb)	
	Destroyed		(lb)	
	Stockpiling with Intent to Destroy		(lb)	
Used Oil	Recycled		(gal)	
	Disposed		(gal)	
Metal	Ferrous Metal Recycled		(lb)	
	Non-Ferrous Metal Recycled		(lb)	
Plastic	Recycled		(lb)	
PCB-Containing Capacitors	Destroyed		(# of capacitors)	
	Recycled		(# of components)	
Mercury-Containing Components	Disposed		(# of components)	

*Foam-blowing agent typically represents only 10% of the total foam weight.

C. Energy Savings

Please complete the table below if your program provides an incentive (e.g., financial) to encourage the disposal (i.e., without replacement) of old, working refrigerated appliances.

Average Number of Remaining Years of Useful Life	
Average Energy Consumed/Year/Unit (kWh)	
Average Energy Cost for Residential Consumers (\$/kWh)	
<i>(please provide the average cost during the current program period)</i>	

Additional Comments:	
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Step 3: Activity Data on Air-Conditioning Units

MM/DD/YYYY to MM/DD/YYYY

Instructions: All partners should complete Tables A and B. If your program provides an incentive (e.g., financial) to encourage the disposal of old, working refrigerated appliances, please also complete Table C. When populating cells, please use the units provided; do not add text to specify units. This form only recognizes numbers.

A. Units Processed

Please complete the gray cells below. Enter the total number of units processed by your program by refrigerant type in column D. Specify the number of units processed with refrigerant recovery in cells E11 to E14. Also, provide the average age of appliances collected (cell D9), and whether the information on refrigerant types is based on assumptions or data (cells F11 to F14). If any of the units reported in column D were jointly processed/administered with another RAD Utility, Retailer, Manufacturer, or State Partner, please indicate the number of these units in Step 4 - Units Jointly Processed; the units reported in this table should be inclusive of the units reported in Step 4. If you wish to provide additional information (e.g., regarding types of refrigerants or insulating materials not listed below) or highlight uncertainties in your reporting, please do so in the "Comments" box.

Total Number of Units Processed				
Average Age of Appliances Collected (yrs)				
Refrigerant Type	Total Number of Units Processed	Number of Units Processed with Refrigerant Recovery	Refrigerant Type Based On:	Comments:
HCFC-22				
R-407C				
R-410A				
Other				
Total	0	0		

B. Fate and Quantity of Substances Recovered

Please complete the table below to provide the total amount of appliance components recovered by your program during the current reporting period. If any substances recovered during the current reporting period are currently in storage, please report on the *intended* fate of the substance (e.g., stockpiling with intent to reclaim/destroy). Refer back to the Instructions & Definitions tab for definitions of the fates for each component. For any fields that do not apply to your program, please enter "0" under "Total Amount" in column F. For every non-zero value entered in column F, indicate whether the quantity specified is based on actual measurements or on assumptions by selecting the appropriate option in column H. If you wish to clarify uncertainties about the data provided, or wish to provide further information, please use the space for "Additional Comments" at the bottom of this worksheet.

Appliance Component	Fate of Component	Total Amount	Total Amount Based On:	
Refrigerant (including that recovered from compressor oil)	HCFC-22			
	Reclaimed	(lb)		
	Stockpiling with Intent to Reclaim	(lb)		
	Destroyed	(lb)		
	Stockpiling with Intent to Destroy	(lb)		
	R-407C			
	Reclaimed	(lb)		
	Stockpiling with Intent to Reclaim	(lb)		
	Destroyed	(lb)		
	Stockpiling with Intent to Destroy	(lb)		
	R-410A			
	Reclaimed	(lb)		
Stockpiling with Intent to Reclaim	(lb)			
Destroyed	(lb)			
Stockpiling with Intent to Destroy	(lb)			
Used Oil	Recycled	(gal)		
	Disposed	(gal)		
Metal	Ferrous Metal Recycled	(lb)		
	Non-Ferrous Metal Recycled	(lb)		
Plastic	Recycled	(lb)		
PCB-Containing Capacitors	Destroyed	(# of capacitors)		

C. Energy Savings

Please complete the table below if your program provides an incentive (e.g., financial) to encourage the disposal (i.e., without replacement) of old, working refrigerated appliances. The estimates provided should be consistent with that specified in your jurisdiction's deemed savings database, technical reference manual (TRM), or third-party ARP evaluation, as appropriate.

Average Number of Remaining Years of Useful Life	
Average Energy Consumed/Year/Unit (kWh)	
Average Energy Cost for Residential Consumers (\$/kWh) <i>[please provide the average cost during the current program period]</i>	

Additional Comments:	
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EPA ICR NUMBER: 2254.02, Revised 11/2018



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 Washington, DC 20460

Step 3: Activity Data on Dehumidifiers

MM/DD/YYYY to MM/DD/YYYY

Instructions: All partners should complete Tables A and B. If your program provides an incentive (e.g., financial) to encourage the disposal of old, working refrigerated appliances, please also complete Table C. When populating cells, please use the units provided; do not add text to specify units. This form only recognizes numbers.

A. Units Processed

Please complete the gray cells below. Enter the total number of units processed by your program by refrigerant type in column D. Specify the number of units processed with refrigerant recovery in cells E11 to E16. Also, provide the average age of appliances collected (cell D9), and whether the information on refrigerant types is based on assumptions or data (cells F11 to F16). If any of the units reported in column D were jointly processed/administered with another RAD Utility, Retailer, Manufacturer, or State Partner, please indicate the number of these units in Step 4 - Units Jointly Processed; the units reported in this table should be inclusive of the units reported in Step 4. If you wish to provide additional information (e.g., regarding types of refrigerants or insulating materials not listed below) or highlight uncertainties in your reporting, please do so in the "Comments" box.

Total Number of Units Processed				
Average Age of Appliances Collected (yrs)				
Refrigerant Type	Total Number of Units Processed	Number of Units Processed with Refrigerant Recovery	Refrigerant Type Based On:	Comments:
CFC-12				
HCFC-22				
HFC-134a				
R-500				
R-410A				
Other				
Total	0	0		

B. Fate and Quantity of Substances Recovered

Please complete the table below to provide the total amount of appliance components recovered by your program during the current reporting period. If any substances recovered during the current reporting period are currently in storage, please report on the *intended* fate of the substance (e.g., stockpiling with intent to reclaim/destroy). Refer back to the Instructions & Definitions tab for definitions of the fates for each component. For any fields that do not apply to your program, please enter "0" under "Total Amount" in column F. For every non-zero value entered in column F, indicate whether the quantity specified is based on actual measurements or on assumptions by selecting the appropriate option in column H. If you wish to clarify uncertainties about the data provided, or wish to provide further information, please use the space for "Additional Comments" at the bottom of this worksheet.

Appliance Component	Fate of Component	Total Amount	Total Amount Based On:
Refrigerant (including that recovered from compressor oil)	CFC-12		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	HCFC-22		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	HFC-134a		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	R-500		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
	Stockpiling with Intent to Destroy	(lb)	
	R-410A		
	Reclaimed	(lb)	
	Stockpiling with Intent to Reclaim	(lb)	
	Destroyed	(lb)	
Stockpiling with Intent to Destroy	(lb)		

Used Oil	Recycled		(gal)	
	Disposed		(gal)	
Metal	Ferrous Metal Recycled		(lb)	
	Non-Ferrous Metal Recycled		(lb)	
Plastic	Recycled		(lb)	
PCB-Containing Capacitors	Destroyed		(# of capacitors)	

C. Energy Savings

Please complete the table below if your program provides an incentive (e.g., financial) to encourage the disposal (i.e., without replacement) of old, working refrigerated appliances. The estimates provided should be consistent with that specified in your jurisdiction's deemed savings database, technical reference manual (TRM), or third-party ARP evaluation, as appropriate.

Average Number of Remaining Years of Useful Life	
Average Energy Consumed/Year/Unit (kWh)	
Average Energy Cost for Residential Consumers (\$/kWh) <i>[please provide the average cost during the current program period]</i>	

Additional Comments:	
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EPA ICR NUMBER: 2254.02, Revised 11/2018



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Step 4: Units Handled Jointly by Your Organization and Another RAD Partner

MM/DD/YYYY to MM/DD/YYYY

Instructions: Complete this page if you partner with another RAD Utility, Retailer, Manufacturer, or State Partner to jointly process/administer any of your units. The number of units should be reported by partner, in columns D through H. When reporting the units by refrigerant type and blowing agent type, report only the units processed with refrigerant recovery and foam recovery, respectively. If your program jointly processed units with more than five partners, please click on the button below to add additional partner columns. This information is important for ensuring that no units are double-counted when calculating aggregate nationwide benefits achieved by RAD partners. When populating cells, please use the units provided; do not add text to specify units. If you wish to provide further information, please use the space for "Additional Comments" at the bottom of this worksheet.

Click Here to Add Additional Partner Columns

Refrigerators	Partner #1	Partner #2	Partner #3	Partner #4	Partner #5	
Name of RAD Partner that Jointly Processes Your Units						Total Number Jointly Processed
Total Number of Units Jointly Processed						0
Number of Units Jointly Processed with Refrigerant Recovery						
CFC-12						0
HFC-134a						0
Other						0
Total	0	0	0	0	0	0
Number of Units Jointly Processed with Foam Recovery						
CFC-11 Blowing Agent						0
HCFC-141b Blowing Agent						0
HFC-134a Blowing Agent						0
HFC-245fa Blowing Agent						0
Cyclopentane Blowing Agent						0
Fiberglass						0
Other						0
Total	0	0	0	0	0	0

Stand-Alone Freezers	Partner #1	Partner #2	Partner #3	Partner #4	Partner #5	
Name of RAD Partner that Jointly Processes Your Units						Total Number Jointly Processed
Total Number of Units Jointly Processed						0
Number of Units Jointly Processed with Refrigerant Recovery						
CFC-12						0
HCFC-22						0
HFC-134a						0
Other						0
Total	0	0	0	0	0	0
Number of Units Jointly Processed with Foam Recovery						
CFC-11 Blowing Agent						0
HCFC-141b Blowing Agent						0
HFC-134a Blowing Agent						0
HFC-245fa Blowing Agent						0
Cyclopentane Blowing Agent						0
Fiberglass						0
Other						0
Total	0	0	0	0	0	0

Air-Conditioning Units	Partner #1	Partner #2	Partner #3	Partner #4	Partner #5	
Name of RAD Partner that Jointly Processes Your Units						Total Number Jointly Processed
Total Number of Units Jointly Processed						0
Number of Units Jointly Processed with Refrigerant Recovery						
HCFC-22						0
R-407C						0
R-410A						0
Other						0
Total	0	0	0	0	0	0

Dehumidifiers

	Partner #1	Partner #2	Partner #3	Partner #4	Partner #5	
Name of RAD Partner that Jointly Processes Your Units						Total Number Jointly Processed
Total Number of Units Jointly Processed						0
Number of Units Jointly Processed with Refrigerant Recovery						
CFC-12						0
HCFC-22						0
HFC-134a						0
R-500						0
R-410A						0
Other						0
Total	0	0	0	0	0	0

Additional Comments:

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Step 5: Summary of Input Data for Quality Assurance

Instructions: Review the input data summarized in the table below to ensure that the data entered in the Step 3 worksheets are error-free. The table below presents the calculated average quantities of refrigerant, foam-blowing agent, and durable materials recovered per appliance and is self-populated based on the activity data reported in the Step 3 worksheet(s). The typical range reported by partners in previous years can be displayed in comments by holding your cursor over each cell, and should be used as guidance to identify potential reporting errors in the Step 3 worksheet(s).

Average Quantity Recovered Per Unit, Calculated Based on Reported Total Quantity and Number of Units Processed

	Appliance Type			
	Refrigerators	Stand-Alone Freezers	Air-Conditioning Units	Dehumidifiers
Number of Units	0	0	0	0
Refrigerant (lb)*				
CFC-12			NA	
HCFC-22	NA			
HFC-134a			NA	
R-500A	NA	NA	NA	
R-407C	NA	NA		NA
R-410A	NA	NA		
Average across all units				
Foam-Blowing Agent (lb)**				
CFC-11			NA	NA
HCFC-141b			NA	NA
HFC-134a			NA	NA
HFC-245fa			NA	NA
Average across all units			NA	NA
Durable Materials				
Used oil (gal)				
Ferrous metals (lb)				
Non-ferrous metals (lb)				
Plastic (lb)				
Glass (lb)		NA	NA	NA
Number of PCB-containing capacitors				
Number of Mercury-containing components	NA		NA	NA

*Average calculated based on reported number of units processed with refrigerant recovery.

**Average calculated based on reported number of units processed with foam recovery.



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Step 5: Summary of Program's Environmental Benefits

Instructions: No action is required. The tables below are for reference only and are self-populated based on the activity data reported in the Step 3 worksheet(s).

Emissions Avoided

The table below presents the cumulative avoided emissions of greenhouse gas and ozone depleting substances resulting from your program. It is calculated based on assumptions of destruction and reclamation efficiencies developed by the U.S. EPA.

Note: It is assumed that removing units from the electricity grid will only result in environmental benefits if your program offers an incentive to retire old, working appliances. In addition, the estimated ozone and greenhouse gas benefits associated with avoided releases of refrigerant and foam-blowing agent are subject to change as more information becomes available (e.g., regarding loss rates associated with various recovery technologies and practices, baseline emissions, global warming potentials [GWPs], etc.).

Appliance Component	Total Amount Prevented from Being Emitted		Greenhouse Gas (GHG) Emissions Avoided (MTCO ₂ eq) ^a	Ozone Depleting Substances (ODS) Emissions Avoided (ODP-Weighted kg) ^b
	(lb)	(kg)		
Refrigerant^c				
CFC-12 Reclaimed	0.0	0.0	0.0	0.0
HCFC-22 Reclaimed	0.0	0.0	0.0	0.0
HFC-134a Reclaimed	0.00	0.0	0.0	0.0
R-500 Reclaimed	0.0	0.0	0.0	0.0
R-407C Reclaimed	0.0	0.0	0.0	0.0
R-410A Reclaimed	0.0	0.0	0.0	0.0
Reclaimed	0.0	0.0	0.0	0.0
CFC-12 Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
HCFC-22 Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
HFC-134a Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
R-500 Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
R-407C Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
R-410A Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0

Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
CFC-12 Destroyed	0.0	0.0	0.0	0.0
HCFC-22 Destroyed	0.0	0.0	0.0	0.0
HFC-134a Destroyed	0.0	0.0	0.0	0.0
R-500 Destroyed	0.0	0.0	0.0	0.0
R-407C Destroyed	0.0	0.0	0.0	0.0
R-410A Destroyed	0.0	0.0	0.0	0.0
Destroyed	0.0	0.0	0.0	0.0
CFC-12 Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
HCFC-22 Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
HFC-134a Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
R-500 Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
R-407C Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
R-410A Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0
Foam-Blowing Agent²				
CFC-11 Reclaimed	0.0	0.0	0.0	0.0
HCFC-141b Reclaimed	0.0	0.0	0.0	0.0
HFC-134a Reclaimed	0.0	0.0	0.0	0.0
HFC-245fa Reclaimed	0.0	0.0	0.0	0.0
Reclaimed	0.0	0.0	0.0	0.0
CFC-11 Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
HCFC-141b Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
HFC-134a Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
HFC-245fa Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
Stockpiling with Intent to Reclaim	0.0	0.0	0.0	0.0
CFC-11 Destroyed	0.0	0.0	0.0	0.0
HCFC-141b Destroyed	0.0	0.0	0.0	0.0
HFC-134a Destroyed	0.0	0.0	0.0	0.0
HFC-245fa Destroyed	0.0	0.0	0.0	0.0
Destroyed	0.0	0.0	0.0	0.0
CFC-11 Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
HCFC-141b Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
HFC-134a Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
HFC-245fa Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0

Stockpiling with Intent to Destroy	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0
Durable Materials				
Ferrous Metal Recycled	0.0	0.0	0.0	NA
Non-Ferrous Metal Recycled	0.0	0.0	0.0	NA
Plastic Recycled	0.0	0.0	0.0	NA
Glass Recycled	0.0	0.0	0.0	NA
Subtotal	0.0	0.0	0.0	NA
Removing Units from the Grid				
Subtotal Energy Savings	NA	NA	0.0	NA
TOTAL	NA	NA	0.000	0.0

NA = not applicable.

²GWP = global warming potential; the ratio of heat trapped by one unit mass of a gas to that of one unit mass of carbon dioxide. Calculations are based on the direct 100-year GWPs provided in the Intergovernmental Panel on Climate Change Fourth Assessment Report: Climate Change 2007.

³ODP = ozone depleting potential; the ratio of calculated ozone column change for each mass unit of a gas emitted into the atmosphere relative to the calculated depletion for the reference gas CFC-11 (ODP = 1.0). For calculation purposes, ODPs defined in the Montreal Protocol are used.

⁴Refrigerant assumptions: destruction results in emissions of 0.01% (assuming destruction occurs using a TEAP-approved technology, with DRE of 99.99%); the reclamation process results in emissions of 1.5%.

⁵Foam-blowing agent assumptions: destruction results in emissions of 0.09% (assuming destruction occurs in a municipal solid waste incinerator or waste-to-energy facility with a DRE of 99.91%); the reclamation process results in emissions of 1.5%; baseline emissions are assumed to be 100% (i.e., no anaerobic degradation of CFC blowing agent in landfills is assumed).

Hazardous Materials Recovered

The table below presents the amounts of hazardous materials avoided from being released to the environment as a result of your program.

Properly Recovered Component	Total Amount
Used Oil Recycled or Properly Disposed (gal)	0.0
PCB-Containing Capacitors	
Number Destroyed	0
Mercury-Containing Components	
Number Recycled	0
Number Disposed	0

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Step 5: Summary of Program's Gross Energy Impacts from Removal of Old Units (Current Period Dollars)

Instructions: No action is required. The table below is for reference only and is self-populated if data are entered in the Step 3 worksheet Energy Savings tables. Data in the table below apply to the current reporting period.

MM/DD/YYYY		to	MM/DD/YYYY	
Appliance Type	Total # of Units Processed	Total Saved Energy (kWh)	Total Savings to Residential Consumers (\$)	
Refrigerators	0	0.0	\$0.00	
Stand Alone Freezers	0	0.0	\$0.00	
Air-Conditioning Units	0	0.0	\$0.00	
Dehumidifiers	0	0.0	\$0.00	
Total	0	0.0	\$0.00	

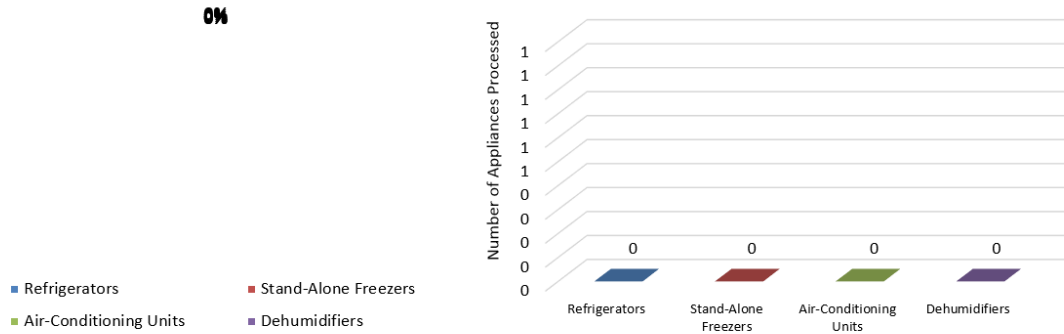
EPA ICR NUMBER: 2254.02, Revised 11/2018



Step 5: Key Messages and Figures to Promote Program's Benefits

Instructions: No action is required. The information below is for reference only and is self-populated based on data entered in the Step 3 worksheets. The purpose of this worksheet is for EPA to provide RAD partners with key messages and figures to promote the benefits of their appliance disposal program.

RAD Results



Climate Benefits

◆ greenhouse gas emissions from passenger vehicles driven for one year. (-or-)



◆ carbon dioxide emissions from homes' energy use for one year. (-or-)



◆ carbon dioxide emissions avoided from incandescent lamps switched to LEDs.



0%

- Reclaiming or destroying refrigerants
- Reclaiming or destroying foam-blowing agents
- Recycling durable materials

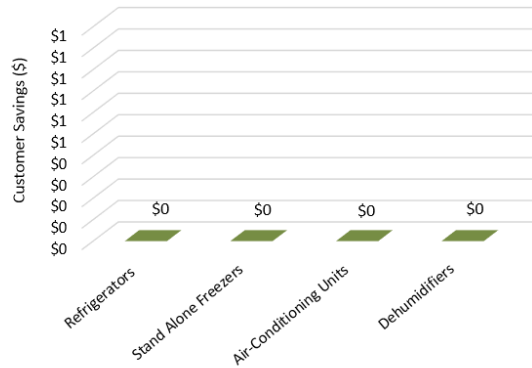
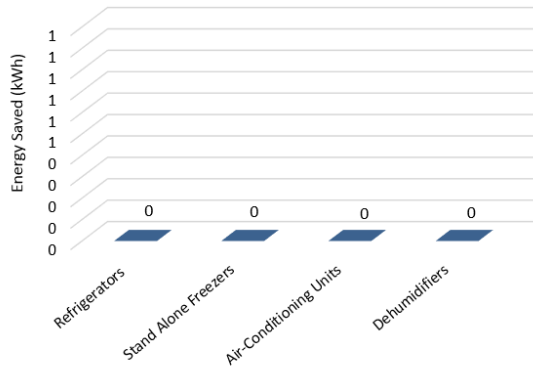
Stratospheric Ozone Benefits

0%

- Reclaiming or destroying refrigerants
- Reclaiming or destroying foam-blowing agents

Energy Savings*

*Note: It is assumed that removing units from the electricity grid will only result in environmental benefits if your program offers an incentive to retire old, working appliances.



Environmental Benefits for Communities

Materials prevented from going to a landfill:

- lbs. of ferrous metals (e.g., steel)
- lbs. of non-ferrous metals (e.g., copper)
- lbs. of plastic
- lbs. of glass

Materials prevented from going to a landfill:

- gallons of used oil
- 0 PCB-containing capacitors
- 0 mercury-containing capacitors



If released into the environment, used oil can leak into groundwater and major waterways and pollute drinking water sources. In addition to used oil, appliances may contain toxic chemicals and heavy metals—namely PCBs from capacitors and mercury from thermostatic switches. PCBs are regulated by EPA as toxic substances; they may cause cancer and liver damage and can have negative impacts on the neurological development of children, the human reproductive system, the immune system, and the endocrine system. Mercury is toxic and causes a variety of adverse health effects, including tremors, headaches, respiratory failure, reproductive and developmental abnormalities, and potentially, cancers.



Step 6: Partner Feedback

Instructions: The U.S. EPA is interested in learning more about your program and receiving feedback on the RAD program. Please take a moment to answer the following three questions.

Question #1

As part of your appliance recycling program, have you undertaken any innovative activities during the year to promote the safe disposal of appliances and/or raise consumer awareness? Please describe. You may also send any photos along with this reporting form at the time of submission.

Question #2

As a RAD Partner, what are the greatest benefits that you've realized through the Program?

Question #3

Do you have any suggestions for how the RAD program can be improved?



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Step 7: Confirmation

Instructions: Prior to submitting this form, please review all Step 3 worksheet(s) and Step 5 QA Input Data Summary worksheet and confirm below that the information is accurate, to the best of your knowledge. Your name and date must be entered into the cells below in order for this form to be considered complete.

I certify that I have personally examined and am familiar with the information submitted in this report, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name

Date

EPA ICR NUMBER: 2254.02, Revised 11/2018