Responsible Appliance Disposal Program

RAD

EPA

RAD Annual Reporting
2012 Training Webinar

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Agenda

- Introduction
- Overview of Reporting Form
- 2012 Updates
- Demo
- Reminders for Proper Reporting
- Questions & Answers

Introduction

- Importance of Reporting
  - Partner and Program benefits
  - Annual RAD Report available at http://www.epa.gov/rad/annualreport.html
- How to report
  - Electronic reporting forms available at http://www.epa.gov/rad/reportingforms.html
  - Forms due to EPA by January 31

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Overview of Annual Reporting Form

- 6 Steps:
  - Step 1: Contact and Program Information
  - Step 2: Third-Party Information
  - Step 3: Activity Data
    - Refrigerators
    - Stand-Alone Freezers
    - Air-Conditioning Units
    - Dehumidifiers
    - Units Jointly Processed

Overview of Annual Reporting Form

- Step 4: Quality Assurance and Results
  - QA: Input Data Summary
  - Results: Environmental Benefits
  - Results: Energy Impacts
- Step 5: Partner Feedback
- Step 6: Confirmation

2012 Updates

- Removal of macros – for usability
- Third Party Info – table on foam recovery added
- Units Jointly Processed – expanded for multiple partners
- Step 3- Units processed by refrigerant & foam type
  - Addition of ‘Other’
  - New field to indicate if type is based on assumption or data

2012 Updates

- Removal of glass field for stand-alone freezers
- Removal of mercury field for all but stand-alone freezers

Reporting Form Demo

Responsible Appliance Disposal Program

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Recover. Recycle. Reclaim.

Reminders for Proper Reporting

- Instructions and definitions can help guide you through the form

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
a) *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.
b) *Complete Step 3 Units Handled Jointly by Your Organization and Another RAD Partn*
processed by your organization and another RAD partner.
Provide information on the number of units jointly processed/administered and the as
recovered from those units.

Step 4: Summary of Input Data for Quality Assurance and Program Benefits
a) Review Step 4 Summary of Input Data for Quality Assurance worksheet to ensure tha
is accurate. This worksheet is used for quality assurance purposes and does not requ
b) Review Step 4 Summary of Program's Environmental Benefits and Step 4 Summary o
Removal of Old Units worksheets to learn about the environmental and/or energy impa

Step 5: Partner Feedback
Provide qualitative information on your program and any input on the RAD program.

Step 6: Confirmation
Check and sign a statement confirming that all information provided in this form is accura

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 at least the requirements specified in the ARI Standard 700, Specifications for Fluorocarbon Refrigerants, and to verify using the analytical methodology prescribed in the Standard.

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.

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.

Reminders for Proper Reporting

- Step 1 form (program info)

B. Program Information

Please select the RAD partner category your program falls under:	Utility		
How many households are in the area served by your program?	1,500		
Indicate which appliance types are included in your program:	Refrigerators	Yes	Complete Step 3 - Refrigerators worksheet
	Stand-Alone Freezers	Yes	Complete Step 3 - Stand-Alone Freezers worksheet
	Air-Conditioning Units	No	
	Dehumidifiers	No	
Does your program jointly process/administer some appliances with another RAD partner?		Yes	Complete Step 3 - Units Jointly Processed worksheet
Does your program provide an incentive (e.g., financial) to encourage disposal of old, working refrigerated appliances?		Yes	Complete Table C in each Step 3 Activity Data worksheet

Reminders for Proper Reporting

- Step 2 (third-party info)
  - Ensure that company information is provided for all roles; mark “x” to indicate role of each company listed
  - Provide the destruction technology type for each destruction facility

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 Recovery	Mercury Recovery	Used Oil Recovery	PCBs Recovery
Company A				*x*	*x*		*x*	*x*	*x*
Company B					*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	
Company C					*x*	*WTE boiler*

Reminders for Proper Reporting

- Step 2 (third-party info)
  - Complete new table to describe foam recovery items, processes, and technologies used; footnotes provide definitions for further clarification

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		Foam/Blowing Agent Recovery Process				
	Doors	Case	Manual (saw and scrape/filet)[a]	Semi-Automated (saw, scrape/filet, and process to recover blowing agent)[b]	Fully Automated (appliance processed whole to recover blowing agent)[c]	Other: please describe	Name of Automated Technology/Equipment Type (if an automated technology is selected)[d]
Example Company D		*x*		*x*			*SEG*

[a] Manual: The appliance is deconstructed with the use of hand or electric saws; foam is removed manually by scraping or fileting. The foam is then destroyed with the blowing agent intact.

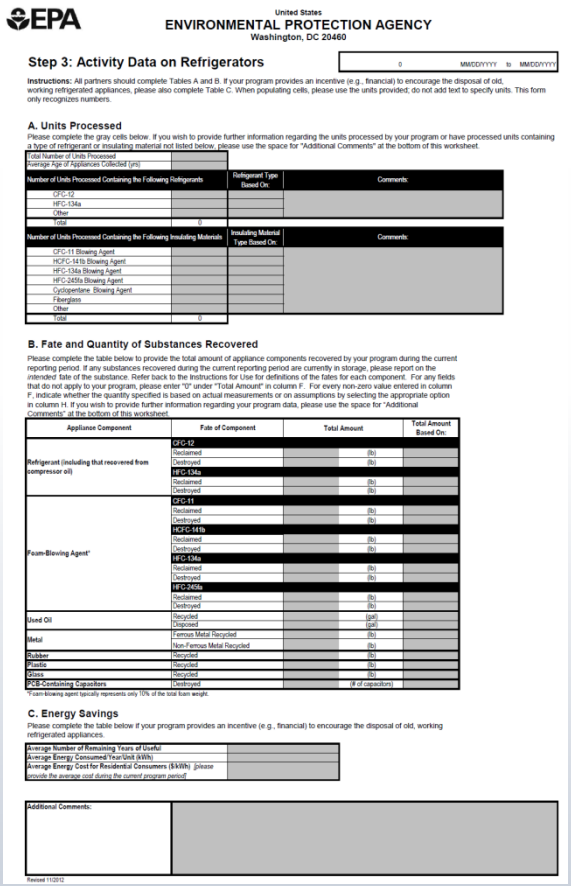
[b] Semi-Automated: The appliance is deconstructed with the use of hand or electric saws; the intact foam panels are then processed using an automated technology to recover the blowing agent.

[c] Fully Automated: The whole appliance is processed using an automated technology to recover the blowing agent.

[d] For example, Adelmann, SEG, and URT.

Reminders for Proper Reporting

- Step 3 (processed units):
  - Indicate # of units by refrigerant/blowing agent type, and if such information is based on data or assumptions
  - If refrigerant or blowing agent is in storage, report on *intended* fate
  - Report rubber only if it is recycled (not just recovered)
  - Report mercury- and PCB- containing components in units recovered, not pounds
  - Use the comments section to provide additional information or clarifications



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Step 3: Activity Data on Refrigerators

0 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. If you wish to provide further information regarding the units processed by your program or have processed units containing a type of refrigerant or insulating material not listed below, please use the space for "Additional Comments" at the bottom of this worksheet.

Total Number of Units Processed	
Average Age of Appliances Collected (yrs)	

Number of Units Processed Containing the Following Refrigerants		Refrigerant Type Based On:	Comments:
CFC-12			
HFC-134a			
Other			
Total	0		

Number of Units Processed Containing the Following Insulating Materials		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		

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. Refer back to the Instructions for Use 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 provide further information regarding your program data, 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)	
	Destroyed		(lb)	
	HFC-134a			
	Reclaimed		(lb)	
	Destroyed		(lb)	
Foam-Blowing Agent*	CFC-11			
	Reclaimed		(lb)	
	Destroyed		(lb)	
	HCFC-141b			
	Reclaimed		(lb)	
	Destroyed		(lb)	
	HFC-134a			
	Reclaimed		(lb)	
	Destroyed		(lb)	
	HFC-245fa			
	Reclaimed		(lb)	
	Destroyed		(lb)	
Used Oil	Recycled		(gal)	
	Disposed		(gal)	
Metal	Ferrous Metal Recycled		(lb)	
	Non-Ferrous Metal Recycled		(lb)	
Rubber	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 of old, working refrigerated appliances.

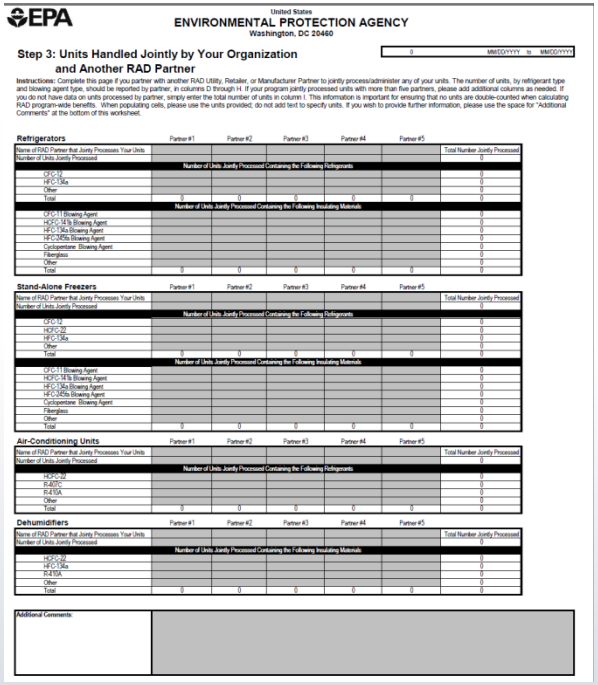
Average Number of Remaining Years of Useful	
Average Energy Consumed/Year/Unit (kWh)	
Average Energy Cost for Residential Consumers ($/kWh) (please provide the average cost during the current program period)	

Additional Comments:	

Revised 11/2012

Reminders for Proper Reporting

- Step 3 (units jointly processed):
  - To avoid double-counting of program benefits, track and report the number/types of any units handled jointly by you and other RAD partners



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Step 3: Units Handled Jointly by Your Organization and Another RAD Partner

0 MM/DD/YYYY to MM/DD/YYYY

Instructions: Complete this page if you partner with another RAD Utility, Retailer, or Manufacturer Partner to jointly process/administer any of your units. The number of units, by refrigerant type and blowing agent type, should be reported by partner, in columns D through H. If your program jointly processed units with more than five partners, please add additional columns as needed. If you do not have data on units processed by partner, simply enter the total number of units in column I. This information is important for ensuring that no units are double-counted when calculating RAD program-wide benefits. 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.

Refrigerators

Name of RAD Partner that Jointly Processes Your Units	Partner #1	Partner #2	Partner #3	Partner #4	Partner #5	Total Number Jointly Processed
Number of Units Jointly Processed						0
Number of Units Jointly Processed Containing the Following Refrigerants:						
CFC-12						0
HFC-134a						0
Other						0
Total	0	0	0	0	0	0
Number of Units Jointly Processed Containing the Following Insulating Materials:						
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

Name of RAD Partner that Jointly Processes Your Units	Partner #1	Partner #2	Partner #3	Partner #4	Partner #5	Total Number Jointly Processed
Number of Units Jointly Processed						0
Number of Units Jointly Processed Containing the Following Refrigerants:						
CFC-12						0
HCFC-22						0
HFC-134a						0
Other						0
Total	0	0	0	0	0	0
Number of Units Jointly Processed Containing the Following Insulating Materials:						
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

Name of RAD Partner that Jointly Processes Your Units	Partner #1	Partner #2	Partner #3	Partner #4	Partner #5	Total Number Jointly Processed
Number of Units Jointly Processed						0
Number of Units Jointly Processed Containing the Following Refrigerants:						
HCFC-22						0
R-407C						0
R-410A						0
Other						0
Total	0	0	0	0	0	0

Dehumidifiers

Name of RAD Partner that Jointly Processes Your Units	Partner #1	Partner #2	Partner #3	Partner #4	Partner #5	Total Number Jointly Processed
Number of Units Jointly Processed						0
Number of Units Jointly Processed Containing the Following Insulating Materials:						
HCFC-22						0
HFC-134a						0
R-410A						0
Other						0
Total	0	0	0	0	0	0

Additional Comments:

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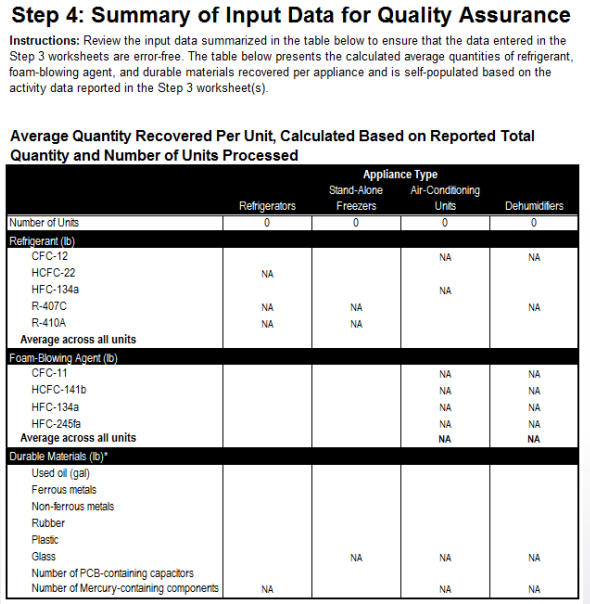
Reminders for Proper Reporting

- Step 4:
  - Review the Input Data Summary as quality assurance

Average Amounts Typically Reported by Partners

Amount Per Unit	Refrigerators	Freezers	AC Units	Dehumidifier
Refrigerant (lb)	≤0.5	≤0.5	0.5-1	≤0.5
Blowing Agent (lb)	1	≤1	NA	NA
Ferrous Metal (lb)	120-160	90-140	65-75	15-30
Non-Ferrous Metal (lb)	5-10	2-10	10-20	4-10
PCB Capacitors (#)	<1	<1	<1	<1
Mercury Components (#)	NA	<1	NA	NA
Used Oil (gal)	≤0.1	≤0.1	0.1-0.5	≤0.3
Plastic (lb)	10-50	10-25	≤5	4-10
Glass (lb)	<5	NA	NA	NA



Step 4: Summary of Input Data for Quality Assurance

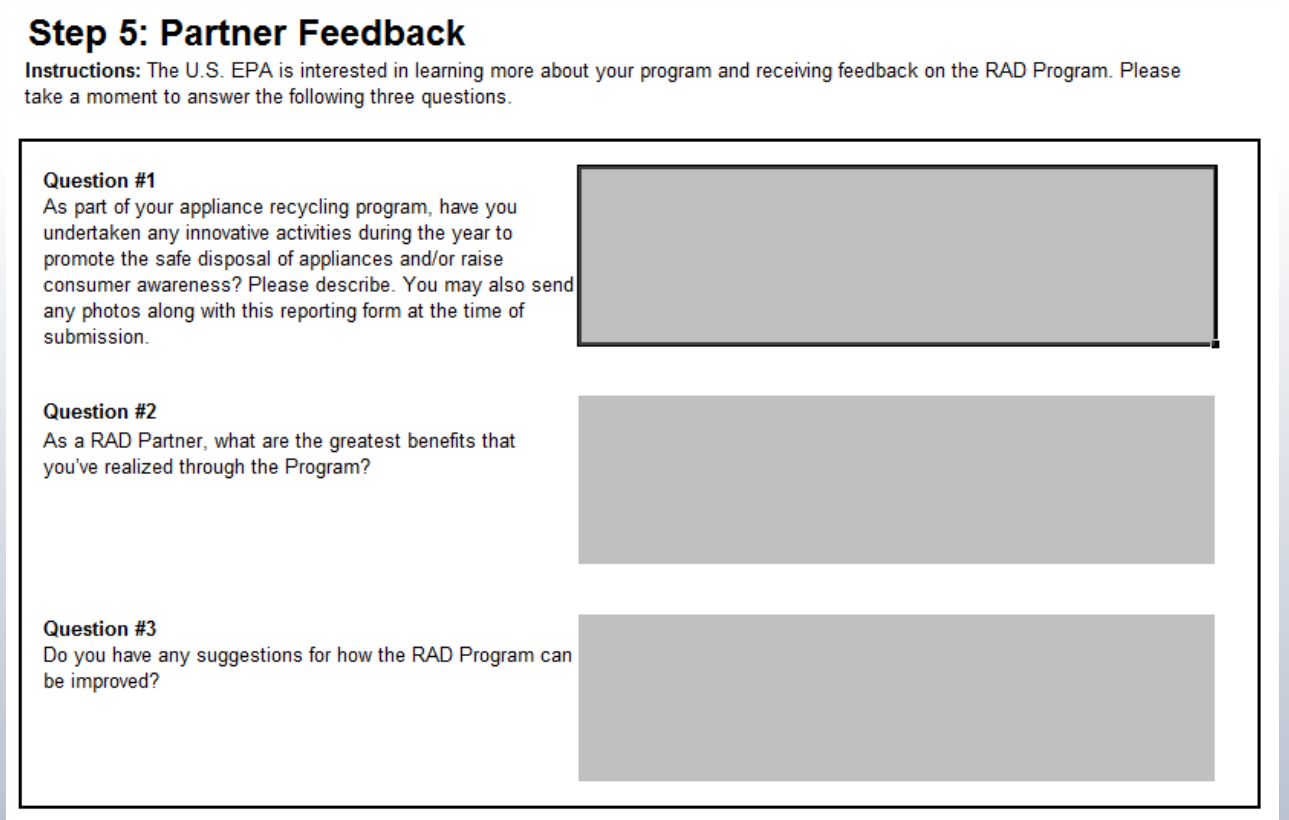
Instructions: Review the input data summarized in the table below to ensure that the data entered in the Step 3 worksheets are error-free. The table below presents the calculated average quantities of refrigerant, foam-blowing agent, and durable materials recovered per appliance and is self-populated based on the activity data reported in the Step 3 worksheet(s).

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	NA
HCFC-22	NA			
HFC-134a			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 (lb)*				
Used oil (gal)				
Ferrous metals				
Non-ferrous metals				
Rubber				
Plastic				
Glass		NA	NA	NA
Number of PCB-containing capacitors				
Number of Mercury-containing components	NA		NA	NA

Reminders for Proper Reporting

- Step 5 (partner feedback):
  - Don't forget to tell us about your program and how we can improve RAD!
  - Attach event/campaign photos for consideration in the 2012 Annual Report



Step 5: 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?

Potential Future Updates

- Additional updates possible based on:
  - Availability of improved data
  - Enhanced streamlining for reporting
- Examples under consideration for 2013:
  - Remove rubber field
  - Remove capacitors from refrigerators/freezers
  - Combine fridges/freezers into one sheet
  - Others? We welcome your feedback!

Questions & Answers

Contact Information

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