

Wireless Waste

The Challenge of Cell Phone and Battery Collection



Aarathi Rayapura

INFORM, Inc.
120 Wall Street, 14th Floor
New York, NY 10005-4001

Tel: (212) 361-2400
Fax: (212) 361-2412
Website: www.informinc.org

John Calderone, Editor
Liz McLellan, Production Editor

© Copyright 2005 by INFORM Inc. All rights reserved.
Printed in the United States of America

Library of Congress Cataloging-in-Publication Data available.

Rayapura, Aarthi.
Wireless Waste: The Challenge of Cell Phone and Battery Collection.

ISBN-10 0-918780-83-7
ISBN-13 978-0-918780-83-6

INFORM is grateful to The Overbrook Foundation for its financial support of this project. We specially thank the US Environmental Protection Agency - Region 2 for its initial input. We also wish to thank Philip McIndoo and Matthew Kilivris for their contributions to the survey.

INFORM, Inc., is a national nonprofit organization that identifies practical ways of living and doing business that represent progress toward sustainability. INFORM is supported by individual, foundation, government, and corporate contributions and by book sales. All contributions are tax deductible.

Printed on 100% post-consumer recycled, non-deinked, totally chlorine-free paper with vegetable-based inks.
Please share this report with others.



Wireless Waste

The Challenge of Cell Phone and Battery Collection

Aarthi Rayapura

INFORM

© 2005

Foreword

This report looks at a program launched in 1994 as a pioneering initiative to implement an “extended producer responsibility” (EPR) policy in the US. In that year, the Rechargeable Battery Recycling Corporation (RBRC) established a program in which industry assumed responsibility for its products when they became waste. The program was implemented nationwide in 1996.

In the 1990s, rechargeable nickel-cadmium (Ni-Cd) batteries, and soon after other types of rechargeable batteries, were flowing into the US waste stream every year. These batteries would wind up either in landfills, from which their toxic materials might leach into underground water and soil systems, or in incinerators, from which the toxic substances might escape into the air. RBRC set up its program in reaction to state laws that were being enacted when several states recognized discarded rechargeable Ni-Cd batteries as a growing threat to the environment and to human health. (Cadmium, a key ingredient, is a known carcinogen.)

Typically, municipalities are responsible for the products disposed of by consumers; however, EPR shifts this responsibility to manufacturers. The RBRC program was based on this new concept of EPR, born in Germany in 1991. Under the RBRC program, battery manufacturers set out to recover their products at their end of life, with the intent of recycling the goods and seeing the materials reused.

Underlying the policy of EPR was another concept—the circular, rather than linear, use of natural resources. Recapturing the materials in products that have been discarded by consumers so these can be recycled again and again means that greater value is gained from materials originally extracted from the earth at a significant environmental cost.

The concepts of EPR and the “circular use of materials” have a simple elegance to them. The complexity comes when trying to create programs for taking back specific products and actually getting them reused or recycled. The scope of the RBRC program reflected this complexity: With millions of batteries being sold to millions of consumers each year, how could the industry get these batteries returned and then transport them to locations where they could be reprocessed and made into new products?

The story of the RBRC initiative, now entering its second decade, is the story of one industry’s effort to address this issue. It is also the story of bold announcements, detailed plans, ambitious goals, waning effort, and the lack of consistent attention—which have made this program stumble and fall. At this one-decade mark, INFORM has compared the program’s goals to its disappointing results.

The RBRC program originally took back only Ni-Cd batteries. RBRC subsequently expanded the program to include other rechargeable batteries such as lithium-ion and nickel-metal hydride. Most recently, RBRC broadened its program to take back cell phones.

In surveying the RBRC consumer take-back program, INFORM looked at five cities and communities of varying sizes in two states: New York City, three smaller cities (Albany, Kingston, and Poughkeepsie, NY), and one town (Princeton, NJ). The survey has shown some of the failings that must be corrected if this program is to live up to its early promise.

We hope that this report and its recommendations for improving the RBRC program will be valuable for government and environmental leaders who want to see progress in this important area and for the industry that is responsible for this progress.

Bette Fishbein
INFORM, Senior Fellow

Wireless Waste: The Challenge of Cell Phone and Battery Collection

The US government and governments abroad have expressed increasing concern about the disposal of rechargeable batteries and cell phones because these products contain numerous toxic substances. Rechargeable batteries may contain cadmium, cobalt, and lead, while cell phones may contain brominated flame retardants, antimony, arsenic, beryllium, cadmium, copper, lead, nickel, and zinc. These substances threaten public health and the environment if they are disposed in landfills and incinerators.

Rechargeable Batteries: 1994

In response to the potential threats from batteries, eight states¹ passed legislation that required industry to take back and recycle nickel-cadmium batteries, and many other states were considering similar legislation. In 1994, the rechargeable battery industry established the Rechargeable Battery Recycling Corporation (RBRC), a nonprofit organization whose purpose was to collect used rechargeable batteries and recycle them through a program called Charge Up to Recycle! The rechargeable battery industry created this voluntary program. When expanded in 1996, it became the first nationwide, industry-wide take-back program in the US, intended to preempt further legislative mandates. According to RBRC, the industry was determined “to conserve natural resources and prevent rechargeable batteries from entering the solid waste stream.”²

In its 2002 study “Waste in the Wireless World,” INFORM reported that, since 1998, RBRC had not released any information about the number of rechargeable batteries entering the waste stream, the amounts RBRC is collecting, or its recycling rates.³ The report pointed out that, because the battery take-back program was voluntary, it contained no reporting requirements and demanded little enforceable accountability. INFORM’s study also showed that few consumers knew about the program.

In 2002, RBRC began posting some data, such as amounts recycled, on its website (www.rbrc.org). RBRC reported recycling 4 million pounds of batteries in 2003 and 4.4 million pounds in 2004. These figures reflect

combined totals for the US and Canada. However, in 1998, RBRC had estimated that, in 2003, it would recycle 14.3 million pounds of batteries in the US alone and 16.9 million pounds in 2004.⁴ (See appendix D.) RBRC reported collecting 22 million pounds of rechargeable batteries since 1994, but, in 1998, it had also projected that 80 million pounds would be collected in the US during the program’s first decade. Although RBRC is not providing recycling rates, the reported amounts of pounds recycled indicate that RBRC has fallen far short of its stated goals.

Cell Phones: 2004

In 2004, RBRC launched Call2Recycle, a national cell phone take-back program. In collaboration with Recellular, Inc., a major cell phone refurbisher and recycler, RBRC indicated its plan to either refurbish or recycle all phones collected through its Call2Recycle program, with a portion of the proceeds going to select charities. RBRC promised to establish the infrastructure for Call2Recycle by Earth Day, April 22, 2004. It planned to place all-in-one collection boxes, intended for rechargeable batteries and cell phones, at collection centers nationwide. In summer 2004, RBRC also planned to launch a national promotional campaign that included public service announcements featuring Richard Karn, co-star of the sitcom *Home Improvement*, who has served as RBRC’s spokesperson since RBRC’s inception.

In a press release issued in October 2004 (see appendix A), RBRC claimed to provide more than 30,000 drop-off locations across the US. According to RBRC’s website, consumers could simply visit any of these drop-off points at major chain stores such as Staples and Home Depot and deposit their cell phones in a collection box. The October press release also claimed that, in many cases, RBRC would be able to set up a retailer for participation in less than 30 days. The kick-off promotional campaign featured Richard Karn on RBRC’s website and in broadcast media appearances. RBRC also promoted this campaign through wrappers on magazines such as *National Geographic* and in print ads placed in publications such as *Forbes* and *Popular Science*.

¹ The eight states are Florida, Iowa, Maine, Maryland, Minnesota, New Jersey, Rhode Island, and Vermont.

² Rechargeable Battery Recycling Corporation, “Rechargeable Battery Recycling Corporation Info Sheet,” www.rbrc.org/presskit/info.html [accessed 12/23/04].

³ INFORM, “Waste in the Wireless World,” May 2002.

⁴ RBRC, “Charge Up to Recycle,” newsletter, fall 1998.

The Survey

During September and October 2004, INFORM undertook a survey to get some idea of the RBRC programs' reach and implementation. The survey was to simply provide a snapshot of the program in four cities in New York and one in New Jersey.

Methodology

INFORM surveyed stores in five cities of different sizes: New York City, Albany, Kingston, Poughkeepsie (all in New York), and Princeton (in New Jersey). Forty-eight stores were selected from the drop-off location list posted on RBRC's website (see appendix B for store names and addresses). Locations were chosen to create a mixed sample of chain stores, such as Staples and Home Depot, and independent stores, such as local hardware stores.

INFORM developed two survey forms—one for rechargeable battery collection and another for cell phone collection (see appendix C for survey forms and guidelines)—that required surveyors to visually assess each location and record their observations in real time or just after leaving each store. Surveyors were asked to note some of the following details:

- Visibility of a recycling box
- Organization operating the recycling box
- Appearance of promotional literature about the recycling program
- Location of promotional materials in the store
- Description or type of promotional materials visible

Survey team members recorded observations for rechargeable battery and cell phone recycling boxes and any promotional materials.

If recycling boxes or promotional materials were not visible, surveyors spoke with a store employee and asked the following questions:

- Does the store have a recycling box for rechargeable batteries or cell phones?
- Does the employee know about the recycling program?
- Does the employee know about the organization operating the recycling box?
- What is the employee's title?
- What additional comments did the employee offer?

Three surveyors conducted the site visits. After completing all inspections in their assigned areas, the surveyors returned the compiled data to INFORM, where the forms were tabulated, analyzed, and stored.

Findings

INFORM's findings indicate that, in the cities surveyed, the RBRC programs' reach and implementation do not match RBRC's claims. Although this may not hold across the US, one can logically assume that, if severe deficiencies occur at the majority of stores surveyed in these five cities, similar deficiencies most likely exist in other parts of the country.

RBRC's own projections for rechargeable battery recycling show that RBRC is not meeting the targets it set. Regarding cell phones, INFORM's survey suggests that RBRC's cell phone recycling program may not be as successful as RBRC claims. It may be an impressive program on paper but flawed in its implementation.

The key findings of INFORM's survey are as follows:

- Information about participating stores as listed on RBRC's website is not reliable. (Of the 48 locations chosen, INFORM's survey team could locate only 41 stores. The remaining seven did not exist at the addresses listed on the website.)
- Only a few stores listed on RBRC's website participate in the program.
- Store employees are inadequately informed about the programs.
- Promotion of the program has been poorly implemented.
- RBRC's in-store presence is minimal to non-apparent.

The following tables document survey findings.

Cell phone recycling program: Few recycling boxes

Most of the stores surveyed did not provide a cell phone recycling box. Only 16 of the 41 stores visited had recycling boxes on the premises, with just 10 of the boxes being plainly visible. Only six of the boxes could be identified as belonging to RBRC. One box belonged to the Sierra Club, another to HopeLine, while the operating organization of the remaining eight could not be identified.

Table 1. Stores containing collection boxes for cell phone recycling

Classification	Number of Stores
Stores chosen from RBRC website	48
Stores that existed at the listed location	41
Stores containing boxes - <i>Identifiable as RBRC</i>	16 6

Table 1a. Stores containing collection boxes for cell phone recycling (by city)

Classification	Number of Stores					
	Albany	Kingston	New York	Poughkeepsie	Princeton	Total
Stores chosen from RBRC website	10	9	15	6	8	48
Stores that existed at the location	10	9	10	6	6	41
Stores containing boxes - <i>Identifiable as RBRC</i>	3 0	4 2	4 0	2 1	3 3	16 6

Rechargeable battery recycling program: More boxes, but still problems

Similar to cell phone collection, many stores did not provide a collection box for recycling batteries even though the battery take-back program has been in place for a decade. Of the 41 stores visited, 21 had a box for recycling rechargeable batteries, with 17 of the recycling boxes being plainly visible. Only 11 boxes could be identified as belonging to RBRC.

Table 2. Stores containing collection boxes for rechargeable battery recycling

Classification	Number of Stores
Stores chosen from RBRC website	48
Stores that existed at the listed location	41
Stores containing boxes - <i>Identifiable as RBRC</i>	21 11

Table 2a. Stores containing collection boxes for rechargeable battery recycling (by city)

Classification	Number of Stores					
	Albany	Kingston	New York	Poughkeepsie	Princeton	Total
Stores chosen from RBRC website	10	9	15	6	8	48
Stores that existed at the listed location	10	9	10	6	6	41
Stores containing boxes - <i>Identifiable as RBRC</i>	4 2	6 3	4 0	4 3	3 3	21 11

Program promotional materials: Hardly any

Only three stores displayed promotional materials for the cell phone recycling program, while two displayed materials for the rechargeable battery recycling program.

Table 3. Stores displaying promotional materials

Classification	Number of Stores
Stores chosen from RBRC website	48
Stores that existed at the listed location	41
Stores displaying promotional materials for cell phone recycling	3
Stores displaying promotional materials for rechargeable battery recycling	2

Employee awareness: Only six employees aware of RBRC's programs

When questioned by INFORM's survey team members, most of the employees at the visited stores were unaware of a recycling program at their location. Although surveyors spoke with an employee in each of the 41 stores, employees at only 15 locations knew of a recycling program, and employees at just 6 locations were aware of RBRC's program. At four stores, employees refused to speak with INFORM's survey team member or provide information.

Table 4. Stores where employees were aware of a recycling program

Classification	Number of Stores
Stores chosen from RBRC website	48
Stores that existed at the listed location	41
Stores where employees knew about RBRC's program	6

Recommendations

In light of these survey findings, INFORM has seven recommendations for improving the performance of RBRC's cell phone and rechargeable battery recycling programs.

- Public evaluation of a program's performance is impossible without consistent reporting. What is needed is a publicly available annual report stating the numbers and amounts of rechargeable batteries and cell phones that RBRC collects and recycles, along with the respective recycling rates. Also, separate data are needed for the US and Canada. This is essential to determine whether programs that look good on paper are being implemented as planned and are achieving stated goals; otherwise, mandates should be imposed if targets are not met.

- Clearly, the list of stores and addresses posted on the RBRC program's website is not reliable. Some stores did not exist at the addresses provided. At a minimum, RBRC needs to regularly update these lists to keep them current.

- RBRC should ensure that its 30,000 participant locations are truly participating in the program. INFORM's survey results demonstrated that, at least in the five cities surveyed, the majority of stores listed on RBRC's website were unaware of the recycling programs and were not participating as advertised.

- Recycling boxes must be plainly visible and easily accessible at participating locations. The survey showed that many stores with boxes kept them behind the counter, where consumers could not see or access them.

- Store employees need to be trained about RBRC's programs and about the underlying issues that prompted their adoption. If store personnel can be highly knowledgeable about the products and services their companies are selling, they can also be adequately aware of RBRC's recycling programs and their importance. Poorly trained employees deter consumer participation in the program.

- Consumers should be given incentives for returning phones and batteries, for example, deposit refund systems or discounts on new phones when returning old ones.

- Raising public awareness of the need for recycling and of ways to recycle rechargeable batteries and cell

phones should be an integral component of the program. RBRC claimed that its campaign generated more than 416 million media impressions in 2003, but the absence of promotional materials at the visited stores and lack of awareness among employees offered strong evidence of a weak campaign. Simple measures could be implemented to strengthen RBRC's promotional campaign, such as:

- Adding recycling information to all cell phone ads (Of the hundreds of cell phone service and sale advertisements that INFORM monitored during July and August 2004, not a single ad included information about cell phone recycling or RBRC's program.)

- Inserting recycling information on monthly cell phone bills and placing promotional materials in highly visible locations inside stores that accept drop-offs

Increase interaction – Increases face-to-face interaction with customers.

Establish warranty control – Collecting used batteries and cell phones may deter customers from wanting a refund on a used battery.

Enjoy free promotion – Each participating store will be listed on the Call2Recycle website, www.call2recycle.org, and be included on the toll free consumer helpline, 1-877-2-RECYCLE, informing the public where to drop off their used rechargeable batteries and cell phones.

Conserve natural resources – Primary components of rechargeable batteries can be reclaimed to make new products—stainless steel products and new rechargeable batteries. Cell phones are refurbished and resold when possible. Portions of the proceeds received from resale will benefit select charities.

Retailers interested in enrolling in the Call2Recycle program can visit www.call2recycle.org or call toll free 877-723-1297 to find out more about the program.

Since 1994, RBRC has collected over 22 million pounds of rechargeable batteries—those found in a growing list of portable electronics products, including a wide range of portable electronic products, including cellular and cordless phones, two-way radios, camcorders, laptop computers and cordless power tools. Consumers can find the nearest participating drop off location by calling 1-877-2-RECYCLE or by going online at www.call2recycle.org.

###

About RBRC

The Rechargeable Battery Recycling Corporation (RBRC) is a nonprofit, public service organization dedicated to rechargeable battery and cell phone recycling. There are over 30,000 retail and community battery collection locations that participate in RBRC's battery and cell phone recycling program. RBRC is funded by more than 300 manufacturers and marketers of portable rechargeable batteries and products. RBRC's public education campaign and cell phone and battery recycling program is the result of the rechargeable power industry's commitment to conserve natural resources and prevent cell phones and rechargeable batteries from entering the solid waste stream. Cell phones collected through the Call2Recycle™ program will be recycled or refurbished and resold when possible with a portion of the proceeds benefiting select charities. For more information, call 1-800-8-BATTERY or visit www.rbrc.org.

Appendix B - List of Participating Sites by City

ALBANY, NY

Sl. No.	Store	Sl. No.	Store
1	A. Phillips Hardware 292 Central Ave Albany, NY 12206-2522 Phone: (518) 465-8861	10	Sears 1425 Central Ave Albany, NY 12205-5098 Phone: (518) 435-9815
2	Albany Communications 91 Colvin Ave Albany, NY 12206 Phone: (518) 485-8851	11	Staples 1440 Central Ave Albany, NY 12205 Phone: (518) 435-9920
3	Best Buy 1 Crossgates Mall Rd Albany, NY 12203-5385 Phone: (518) 452-6881	12	Sun Appliance Service Company 1687 Central Ave Albany, NY 12205-4021
4	Cingular Wireless 1762 Central Ave Albany, NY 12205-4736 Phone: (518) 526-7900	13	Target 1440 Central Ave Albany, NY 12205-5056 Phone: (518) 489-0821
5	Empire Cellular 911 Central Ave Albany, NY 12206-1304	14	Verizon Wireless 1 Crossgates Mall Rd Albany, NY 12203-5385 Phone: (518) 862-6400
6	Home Depot - Department 25 161 Washington Avenue Ext Albany, NY 12205-5607 Phone: (518) 452-9600	15	Wal-Mart 141 Washington Avenue Ext Albany, NY 12203 Phone: (518) 869-4694
7	RadioShack 131 Colonie Ctr Albany, NY 12205-2751 Phone: (518) 459-9208		
8	Remington Products Co Crossgates Mall Albany, NY 12203		
9	Robinson's Hardware 1874 Western Ave Albany, NY 12203-5099 Phone: (518) 456-7383		

KINGSTON, NY

Sl. No.	Store
1	Best Buy 1300 Ulster Ave Kingston, NY 12401-1517 Phone: (845) 336-4090
2	Home Depot – Department 25 1122 Ulster Ave Kingston, NY 12401-1505 Phone: (845) 336-4575
3	RadioShack 1300 Ulster Ave Kingston, NY 12401-1501 Phone: (845) 336-8361
4	RadioShack 2 Kingston Plz Kingston, NY 12401-2938 Phone: (845) 331-3837
5	Sears 1300 Ulster Ave Kingston, NY 12401-1501 Phone: (845) 336-4337
6	Staples 1399 Ulster Ave Kingston, NY 12401 Phone: (845) 336-0386
7	Target 1300 Ulster Ave Kingston, NY 12401-1517 Phone: (845) 336-4385
8	Tel-Rad Service 686 Broadway Kingston, NY 12401-3448 Phone: (845) 331-2812
9	Wireless Zone Kings Mall Kingston, NY 12401 Phone: (845) 336-2799

NEW YORK, NY

Sl. No.	Store	Sl. No.	Store
1	Grand Metro Paint & Hardware Co 2524 Broadway New York, NY 10025-6946	11	RadioShack 336 1st Ave New York, NY 10009-1717
2	Harvard Cellular 636 Lexington Ave New York, NY 10022-4533	12	B&N Hardware Corp 12 W 19th Street New York, NY 10011-4201
3	Cingular Wireless 1103 3rd Ave New York, NY 10017-2006	13	Harvard Cellular 180 Broadway New York, NY 10038-2506
4	Verizon Wireless 1266 3rd Ave New York, NY 10021-4302	14	Staples 250 W 34th Street New York, NY 10119-0002
5	Staples 16 E 34th Street New York, NY 10016	15	Verizon Wireless 859 Broadway New York, NY 10009-1717
6	Remington Products Co 37 W 43rd Street New York, NY 10036-7403		
7	Vercesi Hardware Corp 152 E 23rd Street New York, NY 10010-4501		
8	Verizon Wireless 2268 Broadway New York, NY 10024-5403		
9	RadioShack 1668 1st Ave New York, NY 10128-4803		
10	Mach One Hobbies 249 W 29th Street New York, NY 10001-5211		

POUGHKEEPSIE, NY

Sl. No.	Store	Sl. No.	Store
1	Best Buy 2001 South Rd Poughkeepsie, NY 12601-5951 Phone: (914) 298-8077	9	H.G. Page & Sons Inc. 304 Manchester Rd Poughkeepsie, NY 12603-2549
2	Home Depot - Department 25 95 North Rd Poughkeepsie, NY 12601-1154	10	Metrocom 1159 Dutchess Turnpike Poughkeepsie, NY 12603 Phone: (845) 454-3100
3	RadioShack 838 South Rd Poughkeepsie, NY 12601-6015	11	RadioShack 51 Burnett Blvd Poughkeepsie, NY 12603-2069 Phone: (845) 471-2965
4	RadioShack 790 South Rd Poughkeepsie, NY 12601-5901 Phone: (845) 298-0883		
5	Sears 790 South Rd Poughkeepsie, NY 12601-5901 Phone: (845) 298-3791		
6	Staples 3432 North Rd Poughkeepsie, NY 12601 Phone: (845) 483-0765		
7	Wireless Zone 838 South Rd Poughkeepsie, NY 12601-6015		
8	Davies Hardware Inc. 806 Main Street Poughkeepsie, NY 12603-1898 Phone: (845) 452-6742		

PRINCETON, NJ

Sl. No.	Store
1	Cingular Wireless #5 Hulfish Rd Princeton, NJ 08542 Phone: (609) 799-9393
2	Cingular Wireless 301 Nassau Park Blvd Princeton, NJ 08540-5934
3	Computer City (CompUSA on form) 501 Nassau Park Blvd Princeton, NJ 08540-5937
4	Home Depot - Department 25 701 Nassau Park Blvd Princeton, NJ 08540-5939
5	RadioShack 301 N Harrison St Princeton, NJ 08540-3508 Phone: (609) 924-2547
6	RadioShack 1225 Route 206 Rd Princeton, NJ 08540-1694 Phone: (609) 924-1929
7	Staples 3495 US Highway 1 Princeton, NJ 08540 Phone: (609) 520-8385
8	Wal-Mart 101 Nassau Park Blvd Princeton, NJ 08540-5918 Phone: (609) 514-8657

Appendix C - Survey Instructions and Forms



120 Wall Street, 14th Floor
New York, NY 10005-4001
(212) 361-2400
Fax (212) 361-2412
www.informinc.org

Cell phone/battery recycling survey guidelines

Please read the guidelines below before conducting the survey.

Dress

- Casual, but nice (for example: Khakis/Capri pants, sandals).
- No shorts, jeans, or bare midriffs, please!

The store

- Look around on your own. Answer all the questions that you can without talking to a store employee (ideally, a customer won't need to talk to an employee in order to locate the cell phone and/or battery recycling boxes).
- Record your observations on your own before speaking to an employee.

Talking to an employee or manager

- Tell them your name and identify yourself as doing a survey on cell phone recycling opportunities for INFORM, a New York-based environmental organization.
- Ask their name and position (request a business card if possible).
- Explain that you just have a few questions, and go ahead with the questions on the survey form. They may want to tell you the manager's name or have you talk with the manager. If so, that's great. Get the manager's name and ask him/her your questions.
- Be courteous, clear, and firm.
- Thank the employee or manager for their time.

Before leaving the store

- Take a minute to go over the survey questions and the information you have recorded before you leave.

If you've missed anything or something you wrote down is unclear, don't hesitate to go back to the manager and/or employee with a follow-up question. Better to follow up and fill in any missing information right away, than have to return later.



Name of Store: _____

Address: _____

(Please read all the questions before filling in the form. Tick/circle the correct option where applicable.)

BATTERIES

1. Does the store have a box for recycling/collecting old batteries? Yes No

2. Is it an RBRC box? Yes No Other (Specify) _____

3. Is there any promotional material on battery recycling in the store? Yes No

4a. If Yes, where is the material located? _____

4b. Please describe the material (sign, flier, etc.). _____

5. If No, ask an employee if the store has a box for battery recycling and note his/her response.

6. What is the employee's title? _____

7. Record any comments made by the employee.

8. Any other observations.

Name of Store: _____

Address: _____

(Please read all the questions before filling in the form. Tick/circle the correct option where applicable).

CELL PHONES

1. Is a cell phone recycling box visible? Yes No

2. If Yes, where in the store is it located? _____

3. Is it an RBRC box? Yes No Other (Specify) _____

4. Is there any promotional material on the program in the store? Yes No

5a. If Yes, where is the material located? _____

5b. Please describe the material (sign, flier, etc.). _____

6a. If No, ask an employee if the store has a box for recycling old cell phones and note his/her response. _____

6b. What is the employee's title? _____

7. Does s/he know about the cell phone recycling program? Yes No

8. Record any comments made by the employee.

9. Any other observations.

Appendix D - Ni-Cd Battery Recycling in the United States and Canada

Calendar Year*	Total Recyclable Pounds Entering the Waste Stream	RBRC Market Penetration	RBRC Program Pounds Entering the Waste Stream	RBRC Program Pounds Recycled	RBRC Program Recycling Rate
1993	14,221,000	—	14,221,000	284,000	2%
1994	15,760,000	—	15,760,000	630,000	4%
1995	17,921,000	—	17,921,000	2,703,000	15%
1996	20,542,000	—	20,542,000	3,078,000	15%
1997	22,454,000	75%	16,840,500	3,782,000	22%
1998	23,231,000	80%	18,584,800	4,646,200	25%
1999	26,330,000	81%	21,327,300	6,398,190	30%
2000	27,917,000	82%	22,891,940	8,012,179	35%
2001	28,242,000	83%	23,440,860	9,376,344	40%
2002	28,199,000	84%	23,687,160	11,843,580	50%
2003	28,032,000	85%	23,827,200	14,296,320	60%
2004	28,035,000	86%	24,110,100	16,877,070	70%
2005	28,027,000	87%	24,383,490	19,506,792	80%

* Numbers for 1998 to 2005 are projected.

Source: Rechargeable Battery Recycling Corp., "Charge Up to Recycle," fall 1998.

Publications and Membership

Related Publications

Calling All Cell Phones: Collection, Reuse and Recycling Programs in the US
Eric Most (2003, 48 pp., \$5 manuscript only)

Waste in the Wireless World: The Challenge of Cell Phones
Bette K. Fishbein (2002, 109 pp., \$30) ISBN 0-918780-78-0

Extended Producer Responsibility: A Materials Policy for the 21st Century
Bette K. Fishbein (INFORM), John Ehrenfeld (MIT), and John Young
(Materials Efficiency Project) (2000, 290 pp., \$30) ISBN 0-918780-73-X

Industry Program to Collect and Recycle Nickel-Cadmium (Ni-Cd) Batteries
Bette K. Fishbein (1997, \$5, manuscript copy only)

Shipping and Handling: in the US, \$4.50 for the first book and \$0.50 for each additional book. Visa, Mastercard, and American Express accepted. Special discounts for nonprofits, libraries, wholesalers, and large orders. For more information or to order, please call Denise Jaworski at (212) 361-2400, ext. 240.

Membership

Individuals provide an important source of support to INFORM. Membership starts at \$35 and includes a one-year subscription to *INFORM Reports*, INFORM's quarterly newsletter.

Additional support entitles the contributor to further benefits, including advance notice of and discounts on new INFORM publications.

All contributions are tax deductible.

www.informinc.org

For more information, please call INFORM at (212) 361-2400.

Board of Directors

James J. Periconi, Esq.
Chairman of the Board
Partner, Periconi, LLC

Philip L. McIndoo,
Vice Chairman of the Board
Telecommunications Consultant

Michael B. Gerrard,
Secretary and General Counsel
Partner, Arnold & Porter

Frank T. Thoelen,
Treasurer
Chief Financial Officer,
JAD Corporation of America

Cynthia Adler
Voice-Over Artist, Narrator

Richard P. Brownell
Vice President,
Malcolm Pirnie, Inc.

Patrick P. Grace
President, MLP Capitol Inc.

Blythe Danner
Actor

Robert C. Graham Jr.
President,
James Graham & Sons, Inc.

Edward L. Hoyt
(Retired) Managing Director,
J.P. Morgan

Dennis J. Krumholz
Partner, Riker, Danzig, Scherer,
Hyland & Perretti

Coco Hoguet Neel
Teacher, The Hewitt School

Joan Crystal Pearlman
Instructor,
New School University

Josie Sentner
The Sentner Group

Bailus Walker Jr., Ph.D., M.P.H.
Professor of Environmental &
Occupational Medicine,
Howard University College of
Medicine

Joanna D. Underwood
President, INFORM

- Directors Emeriti -

C. Howard Hardesty Jr.

Kenneth F. Mountcastle Jr.

Carol R. Noyes

INFORM

Strategies for a better environment

120 Wall Street, 14th Floor
New York, NY 10005-4001

www.informinc.org



*printed on recycled paper
with vegetable-based inks*