Product Stewardship for Batteries in Minnesota

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Minnesota Pollution Control Agency
Overview of Batteries

- **Primary**
  - Alkaline (Alkaline Manganese)
  - Zinc Carbon
  - Silver Oxide
  - Button Cell
  - Zinc Air
  - Lithium

- **Secondary (rechargeable)**
  - Nickel Cadmium
  - Nickel Metal
  - Hydride (NiMh)
  - Lithium Ion
  - Small Sealed Lead Acid
  - Alkaline Rechargeable
Industry Profile

- Single use- Estimated 80 percent from Duracell, Energizer, Spectrum/Rayovac, Panasonic and Kodak
- Rechargeables- Estimated 90 percent of sales from Panasonic/Sony, Sony, LG and Samsung

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<tr>
<th>Company</th>
<th>Single-Use</th>
<th>Rechargeable</th>
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<td>Duracell</td>
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Battery Sales

- Total battery industry sales in the U.S. were estimated to be $3.5 billion in 2008.
- In 2010, approximately 5.4 billion units of single-use batteries were shipped in the U.S.
- Single-use batteries have approximately 80% of the total battery market.
- Over the past decade, the rechargeable portion has grown from single digit percentages to the current value of 20%.
Environmental Profile

- LCA conducted by MIT

- Results:
  - Most critical stage is raw material extraction
    - Manganese dioxide and zinc
  - Disposal vs. recycling dependent upon e.g. recycling technology
  - Several collection scenarios with environmental benefit, some not

- All battery collection increases recovery of rechargeables
Eight states have enacted EPR laws for rechargeable batteries
- Minnesota and New Jersey statutes require reporting of recycling performance

Federal Battery Management Act enacted in 1996

The EU implemented a Directive with performance goals of 25 percent by 2012 and 45 percent by 2016

British Columbia, Ontario and Manitoba implemented EPR regulations for all batteries.
- Ontario- Collection goals of 20 percent of program year one and 25 percent by program year.
MN Statutes for Rechargeables

- Since 1991, disposal ban has been in place for rechargeable batteries, a rechargeable battery pack, a product with a nonremovable rechargeable battery, or a product powered by rechargeable batteries or rechargeable battery pack (from which all batteries or battery packs have not been removed).

- Manufacturers of rechargeable batteries or products powered by rechargeable batteries are responsible to implement the following:
  - Financing the costs of collecting and managing its waste rechargeable batteries and waste products to ensure that the batteries are not part of the solid waste stream.

- Implementing permanent programs, based on the results of the pilot projects required in Minnesota Statutes 1994, section 115A.9157, subdivision 4, that may be reasonably expected to collect 90 percent of the waste rechargeable batteries and the participating manufacturers' products powered by rechargeable batteries that are generated in the state.
RBRC (Call2Recycle)

- Formed in 1994, RBRC is the nonprofit overseeing rechargeable battery recycling
- Participating manufacturers: 175+
- Purchase of RBRC license by manufacturers funds program
- Primary collection locations: public agencies (101 sites) retailers (1289 sites) and businesses (176 sites)
- Estimated 2010 sales range 1.3 million to 1.8 million lbs.
- Estimated collection rate of 10-15 percent
SB 515 in CA

- Introduced in CA in 2010 and 2011
- Producers of household submit a stewardship plan to Department of Toxic Substances Control (DTSC) and implement the plan upon its approval by DTSC.
- Do not sell provision
- SB 515 will also require battery manufacturers to meet recycling goals each year
- Report data to CalRecycle
Corporation for Battery Recycling

- Created following 2011 Battery Summit
- Intention of creating national voluntary program
- Initiated foundation programs
  - Six sites in 4 states (MN, WA, CA, NY)
- Issued RFP for stewardship organization in June 2012
Policy Approach

- Brand owners must participate in stewardship program to sell in MN

- Stewardship plan submittal required:
  - Description of the methods by which primary batteries will be collected in all areas in the state without relying on end-of-life fees
  - Explanation of how the collection system will be convenient and adequate to serve the needs of small in both urban and rural areas on an ongoing basis
  - Description of how the adequacy of the collection program will be monitored and maintained
  - Names and locations of collectors, transporters, and recyclers that will manage primary batteries
  - Description of how primary batteries will be safely and securely transported, tracked, and handled from collection through final recycling and processing
Policy Approach

Stewardship plan components:

- The promotion and outreach activities to encourage participation in the collection and recycling programs
- Five-year performance goals, including an estimate of the percentage of primary batteries that will be collected, reused, and recycled during each of the first five years of the stewardship plan. The goals must include a specific goal for the amount of primary batteries that will be collected and recycled and reused each year of the plan.
- The goals must be based on: most recent collection data; estimated amount of primary batteries disposed of annually; the weight of the primary batteries that is expected to be available for collection annually; and actual collection data from other existing programs.
- A discussion of the status of end markets and what, if any, additional end markets are needed to improve the functioning of the program