



EXTENDED PRODUCER RESPONSIBILITY WORKSHOP: EXPLORING SOLUTIONS FOR HOUSEHOLD BATTERIES

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US EPA REGION 9 OFFICES, 75 HAWTHORNE STREET, SAN FRANCISCO, CA

FINAL NUMBER OF TOTAL REGISTRANTS: 149
IN-ROOM PARTICIPANTS 46 / WEBINAR PARTICIPANTS 103

Welcome

Jeff Scott, US EPA Region 9 Director of Waste Management Division welcomed the audience in attendance and listeners on the webinar. He reminded everyone that EPA/CPSC are also working on two future EPR workshops with EPA on mercury lighting in the fall of 2011 and sharps in the spring 2012.

Why We Are Here

Kevin Hendrick, Del Norte Solid Waste Management Authority (DNSWMA) Executive Director gave us a brief history of their rural experience with battery collection and moving towards EPR. Mr. Hendrick discussed how a CalRecycle (then CIWMB) grant started a battery collection program in Del Norte and their work with RBRC on the battery boxes. This started with battery take-back at retail and it has made it easier for the public to recycle and increased battery collections by 3000%.

Update on Battery Pilots and Results

Heidi Sanborn, CPSC Executive Director provided the context [and history of how the battery recycling discussion has moved to EPR](#) and what CPSC has been doing with regards to batteries and producer responsibility. It started with an all day workshop three years ago at California EPA where manufacturers stated they were not ready to be part of the take-back system. We have come a long way since then. We have new research and information on the life cycle analysis of batteries, manufacturers are now stepping up to discuss new opportunities and we have many pilot battery collection programs to look at. Ms. Sanborn discussed briefly the battery pilot collection programs that have been implemented in California, including ones in Del Norte County, Tuolumne County and the San Gabriel Valley and how voluntary programs do not work. As part of the San Gabriel Valley program, focus groups were conducted with retailers and consumers. Results showed that most consumers knew that batteries contained toxic materials but still threw them in the trash anyway. Most participants figured that they were all somehow paying for the programs through taxes, but agree that manufacturers should take responsibility for their products. You can find [results of the focus groups](#) by Elliot Benson Research and [retail take-back phone survey](#) by EMC Research at CPSC's website. Ms. Sanborn also discussed how California legislation has been moving towards support of EPR, with seven EPR-related bills signed in the past three years.

Current Situation in California on Household Batteries Panel Discussion

California Battery Take Back in Del Norte

Presented by Tedd Ward, Del Norte Solid Waste Management Authority

Mr. Ward discussed the history and lessons learned from the Del Norte battery collection program. The program had its share of complications when it was determined by the Federal Department of Transportation that batteries had to be individually bagged or taped. Mr. Ward discussed the advantage of being a small rural county and getting a lot of public support of the program. One of the lessons learned from the program include 61% of retailers saying that the program has taken less time than expected. Mr. Ward discussed that the most important part of the program is to entice the retailers by making the program easy, training the stores and to advertise those stores.

Staples and Batteries

Oral presentation by Al Tyler, Staples

Mr. Tyler discussed Staples involvement with battery recycling, being a partner with CPSC, and its importance to their company's leadership in sustainability. Staples currently has an active program with RBRC for recycling rechargeable batteries at over 2000 stores. They also try to involve and engage their business customers, which include about 70% of Fortune 500 companies. The company is currently involved in the U.S. Battery Recycling Summit. Mr. Tyler discussed the importance of taking back the items they sell and the efficiency of using reverse logistics and how take-back adds value to their customers. Mr. Tyler also discussed that Staples is not only a retailer, but also sell their own products, and have been working on and developing recycled products. Mr. Tyler discussed how the company prefers to be involved in the design and implementation of a recycling program rather than being forced to fit a predetermined approach through mandates.

Batteries and Recology San Francisco

Presented by Bob Besso, Recology

Mr. Besso gave the hauler perspective of batteries management in San Francisco. He said that most large urban recycling programs have screens with a magnet in the end to get all small materials from the commingled sorting lines. Batteries are often picked-up by the magnet in these lines and end up in the metal scrap bin which can lead to metal loads being rejected for contamination despite the fact that San Francisco has battery collections at its HHW facility, 100+ neighborhood drop-off locations and apartment bucket program. Mr. Besso mentioned that Recology pays \$3.50-\$4 per pound for lithium batteries to be recycled and collects 100 tons of batteries a year. He also discussed Recology's support of EPR and how it wants to share their costs of dealing with batteries with others and eventually getting to having no materials in the waste stream we cannot recover and recycle.

Solutions for Secure Data Management and End-of-Life Electronics

Presented by Roy Hays, AERC Recycling Solutions

Mr. Hays discussed AERC's role in battery recycling. They are a "middleman" that receives batteries, sorts and consolidates them and sends them to recycling companies. AERC accepts all battery types, from lead acid batteries, alkaline, nickel cadmium to lithium ion batteries. In the past year, AERC collected 800,000 pounds of lithium batteries, 500,000 pounds of Ni-Cad batteries and 1.2 million

pounds of alkaline batteries from its 12 facilities in the United States. AERC has supported EPR and will create more California jobs if battery recycling is increased in California. AERC co-authored an [op-ed in the San Francisco Chronicle in 2010](#) stating its support for producer support for battery recycling.

Product Stewardship/Extended Producer Responsibility

Presented by Burke Lucy, CalRecycle

Mr. Lucy gave an update on the California State perspective on EPR and product stewardship and what is happening now. He gave a brief history of how California's goals with regards to waste reduction have helped shaped and proven the importance of EPR. Mr. Lucy discussed the importance of accountability and transparency in EPR programs and how a future battery EPR program must look at these strategies.

Questions & Answers:

Q. Has Staples looked at the economic benefits of offering battery recycling to customers?

A. No. Staples does not currently track customers that drop off batteries on their way in to their stores.

Q. What does Staples do with alkaline batteries?

A. In large volumes, they are sent to Veolia, who they already do business with.

Q. Who pays for Staples recycling alkaline batteries?

A. Staples currently does not have an alkaline battery recycling program. Batteries that are alkalines are sent to and handled by Veolia. RBRC mentioned that they get 1-10% by weight that are alkalines through their program and they absorb the costs.

Q. What are the significant costs of sorting and taping batteries?

A. Del Norte said they can spend 2-3 days a month for one person, all day just sorting and taping batteries. SF has one person everyday, 10 hours a day sorting and taping. AERC has one designated person who sorts batteries and is so good they can tell what type of battery it is by feel and weight.

Q. Will a battery EPR program put the squeeze on recyclers if producers are paying?

A. AERC has seen the impact of decreasing costs to stay competitive for e-waste and expects this will probably happen with a battery EPR program where producers drive recyclers profit margins way down.

Q. Are there any other curbside programs for batteries in California?

A. Yes there are other programs, including ones in the counties of San Mateo, Santa Cruz and Tehama and the City of Oakland.

Q. From AERC – do certifications matter?

A. MindClick SGM surveyed more than 300 architects and designers and 150 building manufacturers for a study conducted November 2010. In response to being asked which certifications come to mind as being most valuable to purchasers, the architects and designers listed the top 5 in order: Energy Star, LEED, Green Guard, Forest Stewardship Council, and Cradle to Cradle.

Q. Santa Clara County is considering an ordinance requiring the County only work with e-waste businesses that have e-Steward certification. San Joaquin County also plans to have this requirement in their new RFP. What does AERC and RBRC have for certifications?

A. AERC follows R2 standards. RBRC requires that the companies it works with for recycling to be e-Steward qualified and believes that e-stewards deals with export issues but R2 standards deals with processing standards so it is good to have both.

Closing the Loop: EPR for Batteries in Canada

Extended Producer Responsibility in British Columbia, Canada

Presented by David Lawes, British Columbia Ministry of the Environment

Mr. Lawes discussed the existing EPR programs in British Columbia (BC). BC currently has 14 EPR programs, which began with paint in 1994, and will have 17 products in stewardship programs by July 1, 2011 and 23 by 2012. David has six staff which do all the oversight for all these programs. In 2004, the program was rolled under one framework legislation. There are nine new EPR programs that will be rolled out in the next year. BC set up these programs by working with industry to set start-up dates and monitoring information. There is no regulated role for local government with their role primarily having appropriate information available on their website and provide that information to the public.

The battery EPR program started in BC in 2010 with RBRC of Canada and represents about 90% of rechargeable batteries. Mr. Lawes discussed a new effort called the Pacific Coast Collaborative between BC, Alaska, Washington, Oregon and California. In November 2010, the collaborative's leaders announced a new initiative to collaborate on EPR. Mr. Lawes concluded by discussing the importance of collaboration between everyone and not trying to reinvent the wheel and that successful EPR programs are run when we ensure roles are clearly defined between government and industry. It's important to focus on making sure that batteries don't go to the landfill and that EPR is as easy or as difficult as you want to make it.

British Columbia is the North American leader in the development of EPR programs. For more background, [read the background report](#) or view this [14-minute video](#) produced by product stewards of BC.

EPR and Batteries: What we've learned from Canada

Presented by Carl Smith, Call2Recycle

Mr. Smith first gave a brief overview of Call2Recycle, a program of RBRC- Rechargeable Battery Recycling Corporation, which was founded in 1994 and the first most successful product stewardship program in North America. Their program is free to consumers, retailers and participants and fully funded by manufacturers. Mr. Smith also discussed that not all EPR programs are equal and spoke about the differences between the programs in British Columbia (BC) and Ontario. In BC, the regulations are short and concise, while in Ontario, the regulations are longer, with very detailed documents for calculations of fees, rules and plans. Mr. Smith also explained how the structure of the two programs are different, where in BC, the Minister of Environment approves the work directly and in Ontario there are multiple levels with Stewardship Ontario contracting out the work to Call2Recycle. RBRC recently decided to not provide service in Ontario because of the onerous regulations.

Lessons learned from these two experiences are that one size rarely fits all and that they must leverage synergies amongst materials. Mr. Smith says they are one of two cell phone plans in Canada since they can track batteries and cell phones. Other lessons learned are that costs do matter and that the focus should be on outcome and not process. In Ontario their annual report must include number of sites and goals to increase sites by districts and preferred sites. Mr. Smith said that there shouldn't be worry on the outcome, but on trying to collect batteries and that reputation is more valuable than penalties.

Mr. Smith also discussed the importance of knowing who would pay for battery take-back programs, as battery manufacturers frequently do not have any role in the batteries installed in products. According to Mr. Smith, 70-95% of rechargeable batteries are sold in or with products and with a host product, that manufacturer should be responsible. For batteries sold separate, the brand owner should be responsible.

Q. Why are producers unwilling to work the United States, but are willing to work on EPR in Canada?

A. The governmental process is different and in Canada, it is written in a way that serves the interests of both government and the industry. The Pacific Coast Collaborative is hoping to get a meeting with manufacturers to work on this.

Q. Is there a preference of framework versus individual product EPR legislation?

A. Framework works in BC because they recognize that some framework does not work for all and they make it so not all are bound by framework legislation (i.e. 75% recycling goal). There is also a difference between prescriptive framework vs. a framework that allows for reasonable discretion by product type.

Q. How does BC ensure that remote rural counties are covered?

A. Because most of the population in BC is in Vancouver and Victoria, there were new requirements requiring stewardship programs report by regional district to show performance standards. Call2Recycle reports per capita.

Q. How is the collection rate in BC determined?

A. BC currently uses the "discard" model developed by a consulting group that looks at sales and what is available for collection since rechargeable batteries last so long.

Q. Is it a good idea to put in private right to action language to prevent unfair competition?

A. Yes. It's the only way the manufacturers can be assured that the level playing field will be enforced if the government is too slow to act.

Maximizing Battery Recycling in United States

Presented by Marc Boolish, Energizer

Mr. Boolish discussed the background, objective and outcomes from the U. S. Battery Recycling Summit that was held on April 5-6 earlier this year. After a life cycle analysis was worked on in 2007/2008 the industry got more involved and agreed to sponsor a summit to look into creating a national dialogue on battery recycling and take-back. The summit established a vision to battery recycling on six tenets, including a program with net environmental benefits, an industry or multi-industry led program, shared responsibility, non-fragmented programs, phased implementation and a

non-legislated program. Going into the summit the strategy was for groups to start taking ownership, engage with non-industry stakeholders for optimum outcomes, conduct trials and, optimistically, have a program to roll-out nationally by 2013

The battery summit in April 2011 had 75 individuals participating representing a broad group of individuals to try to create a national program based on input from all stakeholders. Common themes began to emerge from this two day meeting, including that convenience is key and that it must be sustainable. Key takeaways from the meeting that Mr. Boolish discussed included the appreciation of participants, their willingness to engage in open discussion, realizing that the issue they have is complex with no silver bullet and that this is only the beginning. There were agreements to continue communication, collaboration and transparency between industry and stakeholders. Mr. Boolish also discussed three main points that their sub-council has recommended, (1) maintain momentum, including consumer research to optimize participation, (2) creating an optimal long-term end of life system and, (3) be able to manage the overall program and use the data to inform a national solution.

You can follow the information about the summit at the website: www.BatterySummit.com .

Evaluation of Battery End-of-Life Strategies

Presented by Elsa Olivetti, MIT

Ms. Olivetti gave an overview of the study MIT recently completed evaluating the net environmental impacts for various end-of-life scenarios for alkaline batteries. She also discussed the make-up of alkaline batteries, which represent about 85% of household battery sales and the primary materials are manganese, steel and zinc. The study is exhaustive, and in this presentation Ms. Olivetti focused on battery disposal's impacts on cumulative energy demand (using California fuel consumption data), global warming potential, ecosystem quality and human health. The study looked at disposal in landfill versus the different recycling technologies used in the U.S. and in Europe.

In the study, the impact on these qualities were determined from the disposition of 1 kg of batteries. For cumulative energy demand, the current US technologies using smelters for alkaline battery recycling may not be a net environmental benefit. For global warming potential, results correlated with the carbon intensity of fuel used in processing. Using ecosystem quality, the major technologies showed that it may be beneficial, while a focus on human health showed that it can be either beneficial or burdensome. Key findings from the study showed that the benefit of recycling alkaline batteries depends considerably on many factors, including energy intensity of the recycling technology, the nature of materials recovery, and if there are dedicated trips by consumers to drop off batteries for recycling.

Q. What are the differences in transportation impacts from consumer to recycling compared to transportation for disposal?

A. It is difficult to determine as it depends on whether the trip to recycle the batteries is a dedicated trip or not.

Q. Does the end-of-life analysis include the reduction of impacts from mining the metals used to produce the batteries compared to the recycled metal collected from the batteries?

A. Yes.

Q. Is there any issue about the availability of zinc, i.e., is there any shortage or a problem with future availability?

A. Don't know.

Panel Discussion on New Possibilities for Battery Recycling

The panel discussion was moderated by Heidi Sanborn, CPSC.

AkkuSer: Clean, Profitable Battery Recycling

Presented by Larry Landman, AkkuSer

Mr. Landman discussed AkkuSer's new technology for battery recycling and the difference between this and current smelting technologies used in the United States. AkkuSer has been recycling rechargeable batteries for six years and is now finalizing this new technology for alkaline battery recycling. Current technologies for alkaline recycling focus on smelters, which are very hot, consume a lot of electricity and more than half of the battery components still go to landfill. The advantages to this new program are that it is more efficient recycling 80% of the battery, very clean without air emissions, inexpensive and includes a very extensive reporting system detailing what batteries came in and where the materials are sent. Mr. Landman described the new technology itself, which crushes the batteries and then removes the iron and leaches the remaining black mass, with no heat or water involved. There is some organic waste that remains after the process that is used in town central heating in Denmark.

Mr. Landman discussed how their company is eager to build a plant in California and how their creation will help in job creation but they need regulatory certainty that there will be enough batteries that need to be recycled before making that investment.

Sierra Club's Role

Oral presentation by Bill Magavern, Sierra Club California

Mr. Magavern discussed the current landscape of EPR with regards to California policy and politics. With the current economy looking bad and California still looking to balance its budget, the focus of EPR needs to show how it is not a burden to business and on government and to show how it can create jobs and create new and real opportunities. He also encouraged the group to demand policymakers create better recycling opportunities and helping to get those stores known and properly set up.

DTSC and Battery EPR

Oral presentation by Andre Algazi, Department of Toxics Substances Control

Mr. Algazi discussed DTSC's role and history with regards to batteries and EPR. DTSC oversees the regulation as batteries fall under the universal waste rule, which in 2006, all universal waste was banned from landfills. In the same year, the Rechargeable Battery Act was enacted in California that requires retailers to collect and recycle rechargeable batteries if they sell them. The law also requires DTSC to post the pounds collected annually, but did not require collectors to provide that information; however, DTSC has worked with RBRC in the collection of this data. There is currently no regulation on single-use battery collection.

Local Government Perspective on Batteries and EPR

Oral presentation by Rob D'Arcy, Santa Clara County Hazardous Waste Program

Mr. D'Arcy gave a brief overview of his County's programs problems and challenges and discussed future challenges of creating and funding a battery EPR program, including the passage of Prop. 26. He also discussed how his current program for retail collection of batteries has been around for five years, where the County was the sole location for battery recycling and now 80% of batteries are collected through retail locations.

Q. Where and what happens specifically to the organic residue from the Akkuser technology? Is it a liquid or solid?

A. It is a solid residue that is then burned as fuel.

Q. Why hasn't DTSC done anything with battery recycling?

A. The Green Chemistry Initiative was created to identify chemicals of concern, but the process has not been finalized and the materials in batteries may not make the first cut.

Q. How close are we to bringing the Akkuser recycling technology to California?

A. There must be a secure source of supply to be able to get investors on board, in addition to all the regulatory and permitting processes it will take. Kinsbursky Brothers have also looked into getting an alkaline processing plant in California but stopped because it became impractical to go through the permitting process.

Q. What about the existing Take-it-Back program in California?

A. The Take-it-Back partnership program initially developed for batteries and CFLs became unsustainable. A website, tool kit and information was developed but not utilized enough with no quantifiable results gleaned. CPSC has already asked for an analysis of the program to be completed to show why such a voluntary program did not work.

Q. Would Santa Clara be interested in what San Luis Obispo did with their EPR ordinances?

A. What happened in San Luis Obispo (SLO) are baby steps or what we call "transitional" to EPR, but because Santa Clara does not have a joint powers authority like SLO and only a Board of Supervisors, it would only affect the unincorporated areas and would not work. Napa County has already discussed that if their current voluntary program does not work, they will consider a mandatory program and other cities and regional agencies are doing the same.

Q. What is happening with batteries that are imbedded into products?

A. They are considered free-riders and need to be brought into the discussion to make programs fair all producers and first importers of batteries.

How to Support EPR Through Purchasing Policy and Practices

Supporting EPR Through Purchasing Policy and Practices

Presented by JoAnna Abrams, MindClick

Ms. Abrams discussed how EPR can be a part of environmentally preferable purchasing (EPP). EPP guidelines can help address all aspects of a product's lifecycle by incorporating such characteristics that

products should have, such as being made with recycled content, being energy efficient, designed to be long lasting, be recyclable and made from renewable resources amongst other things. EPP can even help control battery waste by incorporating take-back language in purchasing requirements, buying rechargeable batteries whenever possible and collecting batteries by signing up to be a part of Call2Recycle. Ms. Abrams also pointed out how to accomplish this including reviewing existing procurement specifications, defining scope of products, standards and goals, incorporating key language policies that address product specification, defining responsibilities of those involved in procurement, vendors and amending the procurement language. A [Guide to Incorporating EPR Principles into Purchasing and Procurement Documents factsheet](#) was also developed to help with this process for batteries. Corporate sustainability scorecards are also helping drive adoption and streamline information, including ones that have been developed by Kaiser Permanente and Proctor and Gamble.

PerfPower Corporation: Alkaline Battery Business Designed to Design it Green, Take It Back

Oral presentation by Steven Stark, PerfPower

Mr. Stark gave an overview of PerfPower's company and the free recycling of their own brand of alkaline batteries. The company launched in April 2010 and is dedicated to a cradle-to-cradle approach. It sells recycled content alkaline batteries and recycles all batteries at no cost to the consumers. PerfPower absorbs all recycling costs and sells recycled content batteries including the take-back costs at prices lower than the cost of just buying some name brands. The company started in New York and is now in use with sixty municipalities in the U.S. Their take-back works with the US Postal Service and can be tracked through their website. Batteries are sent to Battery Solutions for recycling.
www.irecycled.com

Questions & Answers:

Q. Is PerfPower only taking back their own batteries?

A. Yes, but will still take other batteries if they end up in the box.

Q. What is the return rate?

A. Commercial rates are higher than residential. PerfPower is working with retailers to improve recycling rates.

Q. What about DOT/fire regulations with mail back box?

A. No issues with mail back.

Q. Is PerfPower only taking back alkaline batteries?

A. Battery Solutions, our recycler, takes back all batteries.

Q. Can people purchase batteries on their website?

A. Yes, we can sell online at www.irecycled.com , but trying to sell at regional supermarkets.

Removing Barriers, Pilots/Partnerships, and Next Steps

*Facilitated Discussion & Wrap Up / Next Steps
Heidi Sanborn, CPSC*

Ms. Sanborn led an open discussion with questions from the audience and responses from the various panelists.

Q. How can we transition from batteries being required to be bagged and sorted.

A. Maybe make alkaline batteries easily identifiable or so they don't have to be sorted or taped. DOT is a national rule, but in California batteries are banned from landfill and DOT is not willing to relinquish in taping requirements for lithium and batteries greater than nine volts. We should look into color labels to quickly and easily identify and sort lithium ion batteries or develop an automated sorting system.

Q. (comment) Local governments in California are eager to help solve problems. The national dialogue and pilots have been working, but are only the beginning and Tehama and other counties stand ready to help the battery manufacturers with pilot projects and tests to determine the best way forward.

Q. (comment) We want to continue to test and share information. Having the industry at the table has been good.

Q. (comment) Whatever happens it should be good to reward those who went the extra mile to make that happen and doing the right thing by buying from the industry leaders on take-back planning.

Q. (comment) Next steps are to get an alkaline battery recycler to site in the state.

Q. Heidi ended the "Next Steps" discussion period by asking Mark Boolish from the National Electronic Manufacturers Association if the industry is planning to roll out a national program in 2013 but acknowledged they could not start in every state at the same time, would they roll-out in California first.

A: That goes without saying. Yes.

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