



A New Era for Electronic Wastes

Idaho Develops Recycling Program for Electronics

Groundwater Guardian Featured ROA

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It was a dark and stormy night as I sat hunched over my computer. An eerie glow bathed my face. Suddenly, there was a flash of light and a loud explosion. My computer screen went black. As I sat in the dark, I wondered had the electricity gone out...or...had my monitor died?

Another broken monitor - no big deal, right? Wrong. Unfortunately, each monitor leaves behind a toxic legacy for future generations.

In 2000, Ada County and Boise City, Idaho formed a team to ensure that the cathode ray tube (CRT) toxic legacy does not threaten ground water or the economic health of our community for future generations. This May, after almost two years of research and planning, the city and county launched the household electronics collection program. A free collection event was held May 10 - 12 at the Western Idaho Fairgrounds in Ada County, Idaho. The three-day event generated more than 100,000 pounds of electronic wastes from almost 1,600 households.

Many people are not aware of the hazardous chemicals in computers and televisions. The development of an electronics collection program began with research on the issues and problems related to the disposal of computers and televisions into landfills. The most significant toxic waste is lead which is used in circuit boards and in computer monitor glass (cathode ray tubes or CRTs). Each television tube or computer monitor can contain up to eight pounds of lead. A

shocking 40% of the lead found in a municipal sanitary landfill is from consumer electronic wastes.

Electronic components also contain other toxic chemicals such as cadmium, mercury, hexavalent chromium, brominated flame retardants, and pvc plastics. Each of these materials can leach into the ground water from landfills. If the landfill is unlined, the risk for off-site ground water contamination is high and the cost for remediation is considerable. Most of these toxic chemicals can irreversibly harm human health and the environment.

Concerns have also been raised about the export of computer wastes to developing nations where the toxic risks are not well understood or managed. Boise City and Ada County addressed those issues through careful contracting for the collection and dismantling of the electronic wastes for recycling. The household hazardous waste program contractor, MSE Environmental, provided auditing services for potential de-manufacturing and recycling companies. Nxtcycle was selected to provide recycling and de-manufacturing for the electronic wastes. Nxtcycle pays inmates in the Utah Correctional Industries program at Gunnison, Utah to dismantle computer equipment and televisions. The majority of the computer and television components are recycled with only a small portion of non-toxic materials placed into a landfill. MSE Environmental provided the equipment and arranged for the transportation and recycling of the electronic wastes collected May 10 - 12. They also provide the overall household hazardous waste



▲ *Electronic wastes account for 40% of all the lead and 70% of all the heavy metals contained in municipal landfills.*

program support and materials management for the joint city/county collection program.

The Ada County Hidden Hollow Landfill was first developed in the 1970's. Landfill closure is projected to occur in 2010. The landfill is not lined and there are existing ground water contamination problems from dry-cleaning solvents. The county and city formed a partnership in 1989 to prevent household hazardous wastes from entering the landfill. An annual collection event was held from 1989 through 1996. In 1998, the county opened a permanent hazardous materials collection facility and the city began a mobile collection program. The cooperative effort has earned Ada County and Boise City several national awards for new programs and innovation. Mobile collections, using the city vehicle,

have expanded to several neighboring cities and collections are every Tuesday and Thursday within the area. The program provides service to more than 320,000 area residents.

The on-going demand for more and better electronic equipment requires that communities and manufacturers work cooperatively to ensure proper management and recycling of electronic wastes. The Boise City/Ada County collection program could be an effective model for other communities in the United States. A summary report is being prepared and will be available in July. For more information about electronic waste collection and recycling, contact Catherine Chertudi or Angela Deckers at Boise City Public Works Department, Environmental Division, 208- 384-3901.