

Waste and Resource Recovery Committee Newsletter

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COAL ASH WARMS UP: EPA ISSUES LONG-AWAITED PROPOSED RULES

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On June 21, 2010, the U.S. Environmental Protection Agency (EPA) published proposed rules governing disposal of coal combustion residuals produced by electric utilities. The proposals appear in the *Federal Register* (vol. 75, no. 118, pp. 35,128–264). The proposals would regulate coal ash (coal combustion residuals) from electric utilities as either a “special waste,” subject to the Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste regulations, or as a new category of Subtitle D (solid waste) facility requiring detailed design, operation, closure and post-closure care requirements to be met, or the facility will be considered an “open dump” subject to citizens’ suit enforcement under RCRA.

The proposed rules are remarkable for several reasons, not the least of which is that multiple proposals are being issued simultaneously. EPA also published a “redline” version to show changes that were made after the proposed rule was submitted to the Office of Management and Budget (OMB). OMB apparently required that the Subtitle D approach be included as an alternative to the Subtitle C approach.

Either approach will change the way coal ash is managed in the United States. EPA says that beneficial uses will still be exempt from regulation as a solid or

hazardous waste pursuant to the Beville Amendment (and state laws), but EPA also says that unencapsulated uses—e.g., use as large-scale stabilized fill or reclamation of quarries—are not beneficial uses. Such large-scale uses would be considered landfills under either proposed approach. EPA says it is still looking at how to distinguish closely related beneficial uses (which the agency appears to continue to support) such as use of coal ash in flowable fill and highway grade stabilization.

Subtitle C Approach

Under the Subtitle C approach, use of surface impoundments to manage wet ash will be phased out over five years (with final closure two years after phaseout). The phaseout is the result of a new land disposal restriction for coal combustion wastewaters. After five years, such wastewaters can have no more than 100 mg/l of total suspended solids if they are to be placed in a land disposal unit (e.g., a surface impoundment).

Landfills can receive coal ash if the ash has no free liquids, provided the landfill includes a leachate collection system and a composite liner. The liner and leachate collection systems are required for new landfills and for lateral expansions of existing landfills. The Subtitle C approach will mean that wet collection of coal ash will be a thing of the past. Utilities will have to implement dry collection, or shift more materials to beneficial use, or both. Smaller coal-burning facilities will look hard at these requirements, and might well

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decide to close as a result. Even if they decide to close, however, they will have to comply with closure and post-closure care requirements (including Subtitle C groundwater monitoring).

A key element of the Subtitle C approach would be the site-wide corrective action authority that EPA and the states would have to address historical releases from solid waste management units (broadly defined). The RCRA corrective action program has been one of the slowest and most cumbersome (not to mention expensive) programs administered under Subtitle C.

Subtitle D Approach

The Subtitle D approach is based on changes to the eight open dump criteria (floodplains, endangered species, surface water, groundwater, land application, disease, air, and safety) first published 30 years ago. Under the proposed rule, three of the existing criteria (floodplains, endangered species, and surface water) will apply as written to coal ash facilities (one assumes in the exactly the same way that they do now), but the remaining five criteria will be replaced with specific design and operating requirements for coal ash facilities.

The Subtitle D approach will not eliminate wet collection of coal ash, but will require existing surface impoundments that continue to receive ash to be retrofitted with a composite liner. An alternative approach to this alternative proposed by EPA will not require retrofitting liners.

The Subtitle D approach relies heavily on utilities to post information (e.g., annual certification reports from independent professional engineers) on a public Web site. The Subtitle D approach also includes a unique detection groundwater monitoring program focusing on inorganic constituents, many of which are naturally occurring.

Common Under Both Approaches

Under both the Subtitle C and Subtitle D approaches, utilities will have to compile detailed design and operating data for larger surface impoundments, and have these documents (and the design) certified by an independent professional engineer. Impoundments with

either a “high” or a “significant” hazard potential (as defined) must prepare and make available an emergency action plan to cover what will be done in the event of a dam safety emergency.

Both approaches require fugitive dust to be controlled such that dust does not exceed 35 ug/m³ in air, which is the 24-hour National Ambient Air Quality Standard for fine particulates. The existing open dump criteria (i.e., existing regulations) already require compliance with promulgated air standards.

Steps to Take Now

Coal-burning utilities will likely take a wait-and-see approach to responding to the EPA proposals. The time and expense involved to implement any coal ash strategy will be significant, and the risks associated with assuming which approach EPA may select after public comment are considerable. But there are some measures that utilities should take soon in any event. For example:

- Groundwater monitoring experience under the Subtitle C and municipal solid waste landfill rules has illustrated the importance of getting the groundwater science correct at the outset of a monitoring program. Particularly for naturally occurring inorganic compounds, a detailed understanding of natural background geochemistry can be invaluable when explaining why changes in concentrations of inorganic constituents do not indicate a release.
- Owners of large coal ash surface impoundments should review the detailed information requirements that must be included in the initial reports under either the Subtitle C or Subtitle D approach. To the extent that required data (e.g., design factors of safety and geotechnical information) are lost or unavailable, it would be prudent to begin collecting the information now, in advance of further rulemaking.

Conclusion

Comments on the proposed rules currently are due by September 20, 2010, and many are predicting that EPA will extend the comment period to accommodate

public interest. Coal-burning utilities (and their environmental attorneys) face a period of regulatory uncertainty for the next several months if not years, but many will find it prudent to take at least some steps now in response to the proposed rules.

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LITIGATION OF NOTE: AN UPDATE

Northern California Recycling Association v. County of Solano, Superior Court of Solano County (Hon. Paul Beeman), Superior Court Case no. FCS033687, and related cases. Ruling on Writs of Mandate, dated May 12, 2010.

Summary by Thomas M. Bruen and Erik A. Reinertson

A California trial court has ruled that counties can ban or limit the importation of out-of-county waste without violating the Commerce Clause of the U.S. Constitution. In 1984, the voters of Solano County, located just east of the San Francisco Bay, approved the ban, known as Measure E, by a 68.9 percent “yes” vote. Measure E placed a 95,000 ton-per-year limit on the amount of out-of-county waste all landfills in Solano County could accept. Following the U.S. Supreme Court’s decision in *Fort Gratiot Landfill, Inc. v. Michigan Department of Natural Resources* (1992) 504 U.S. 353, which held that a state statute that gave Michigan counties the right to refuse waste generated outside of the county violated the Interstate Commerce Clause, the board of supervisors and county counsel, along with the legislative counsel of California, determined that Measure E violated the Commerce Clause, and the county declined to further enforce the measure.

In the ruling, Solano County Superior Court Judge Paul L. Beeman disagreed with the county’s analysis. The court recognized that on Measure E’s face, an

out-of-state waste ban was necessarily subsumed in the ban on out-of-county waste. However, citing the fact that Solano County landfills had never imported waste from outside of the state, the court reached the conclusion that the ban was not intended to reach out-of-state waste. As such, the court rewrote Measure E to apply only to waste generated in other counties, but not other states. *Fort Gratiot*, the court held, “focused on the ban as it applied to out of state waste producers, and not on restrictions against acceptance of waste generated within the state, in other counties.” Therefore, the trial judge reasoned, *Fort Gratiot* did not prohibit a statute that had no effect on the flow of waste across state lines. Rather, the court concluded that statutes restricting the flow of waste that had no effect outside of their home state did not implicate the Commerce Clause (citing *On the Green Apartments LLC v. City of Tacoma* (9th Cir. 2001), 241 F.3d 1235 [flow control measure with no effect on out-of-state waste held constitutional].) Therefore, because Measure E did not have an actual effect on waste generated outside of the state, the ban, as rewritten, did not violate the U.S. Commerce Clause.

Judge Beeman also held that Measure E did not violate the Equal Protection Clause. He distinguished the measure from *In re Lyons* (1938), 27 Cal. App. 182, a case that held a county ordinance that forbade a pig farmer from importing garbage from out of county to feed to his pigs was unconstitutional. The court said that since *Lyons* was decided, changes in federal equal protection analysis now only require Measure E to have a rational basis rather than survive strict scrutiny. “[B]ecause the state legislature can step in and protect other local entities from discriminatory regulations, there is less reason for the Courts to invalidate a city or county ordinance which has intrastate effects. Conversely, because Congress faces more limitations on what it can do to control states, there is more reason for the Courts to invalidate statutes which have interstate effects.” The court then concluded that the identified purposes of Measure E, including the preservation of landfill space and the encouragement of recycling, sufficed as rational basis for the measure.

If the decision is upheld, local voters in jurisdictions where ballot initiatives are allowed will have the ability

to approve measures blocking regional landfills which rely on the intrastate importation of waste from beyond the boundaries of these local jurisdictions, including cities and counties. Losing the economies of scale that those regional facilities may offer based on higher waste volumes could well lead to increased disposal costs. More densely populated counties, where real estate values are higher, may have to develop expensive new facilities to handle their own waste disposal rather than rely on the shipment of their waste to rural counties. Environmental groups, who believe that cheap disposal costs are the enemy of recycling, often argue that increased disposal costs will compel local governments and the waste management industry to treat waste reduction and recycling more seriously.

The waste industry counters that the siting of regional landfill facilities in more rural areas allows them to avoid land use conflicts associated with locating or expanding landfills in urban areas, to develop sites in areas with less environmental impacts, and that the economics of larger facilities enable them to spend more on environmental controls that protect the environment surrounding the landfills. The waste industry also points out that local governments have other effective means of encouraging recycling, such as offering new programs, sponsoring educational programs to change waste disposal habits, and the imposition of fees to encourage recycling.

Solano County and the private parties in interest who own a major Solano County landfill are expected to appeal this decision to the First District Court of Appeal in San Francisco, with support from the California State Attorney General’s office as amicus.

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FINANCIAL ASSURANCE IN CHALLENGING ECONOMIC—AND ENVIRONMENTAL—TIMES

**Elizabeth Bannister, Patricia Blau, and
Janet R. Carl**

More than one corporate CFO or local government finance director has been delivered bad, and likely unexpected, financial news over the past couple of years. Sure, they expected to have to implement across-the-board budget cuts, lay off employees and/or hold off on capital investments, but many may have been caught unaware by another casualty of the economic downturn: that is, their balance sheet can no longer meet the financial test for demonstrating financial assurance to regulatory agencies. As a result, what in the past may have been a routine exercise by environmental health and safety personnel to update the annual “financial test” letter, has instead become a challenging effort by finance directors and treasurers to secure millions of dollars in precious letters of credit (LOCs), surety bonds, trust funds, and/or insurance policies to fulfill financial assurance obligations.

This article provides an overview of mechanisms available to fulfill financial assurance requirements, with a focus on recent trends in accessing the competitive environmental insurance marketplace. The need to secure financial assurance instruments will only grow in the coming years as the Environmental Protection Agency (EPA) and state regulators have grown wary of corporate and government balance sheets. In addition, the Office of Enforcement and Compliance Assurance (OECA) has expressed concern that entities are not providing adequate financial responsibility as required under federal environmental laws. This has resulted in EPA identifying the subject of financial assurance as one of its priorities for the last two years as well as the coming year, 2010–2011. The EPA is now planning to promulgate financial assurance regulations for four *additional* industries (hard rock mining, chemical manufacturing, petroleum and coal products manufacturing, and electric power generation, transmission and distribution). So it may be, as the saying goes, that “We ain’t seen nothin’ yet.”

Financial Assurance Mechanisms

Federal and state regulations require owners and operators of municipal solid waste landfills and hazardous waste treatment, storage, and disposal facilities (TSDFs) to provide financial guarantees for closure and post-closure care. With some variations by state, the regulations (40 C.F.R. Part 258) specify that landfill owners/operators obtain financial assurance for an amount sufficient to close and cap their sites and perform post-closure care and maintenance for 30 years after closure. Similarly, federal regulations require owners and operators of TSDFs to secure financial assurance to close such facilities and perform post-closure care and maintenance (40 C.F.R. Parts 264 and 265). In many instances, financial assurance is also required to address any corrective action that is necessary due to releases of contaminants into the surrounding environment during the operational life of facilities and may also require that owners/operators evidence financial assurance for third-party bodily injury and property damage claims.

Financial assurance costs can be demonstrated through a number of mechanisms, including the following:

Corporate or Local Government Financial Test—Owners/operators must evidence enough financial assets to absorb the costs for closure/post-closure by satisfying financial ratios or by passing a predetermined financial test. In the past, the vast majority of financial assurance obligations nationwide have been met by financial tests.

Trust Funds—Owners/operators set aside money in increments according to a predetermined schedule or pay-in period.

Letters of Credit—Guarantees from the owner’s or operator’s lenders that they will cover financial assurance obligations. A letter of credit must be irrevocable and issued for a term of at least one year. The amount of collateral that the lender requires for an owner/operator to obtain a letter of credit is based upon the organization’s credit history. The cost of letters of credit may

range between 1.5 percent and 4 percent of the obligation.

Surety Bonds—These bonds guarantee that the financial obligations of closure/post-closure will be fulfilled. If an owner/operator fails to pay or perform as specified in the bond, the surety company will become liable. The owner/operator must repay the surety company for costs it has incurred on the owner or operator’s behalf.

Historically, costs for closure bonds have been in the range of 2–3 percent of the bond’s face value. However, because bonds are based largely on the creditworthiness of owners/operators, surety providers’ interest in writing bonds has decreased in the last two years—particularly for providing financial assurance to organizations that previously had not had to use financial instruments to fulfill their obligations.

Closure/Post-closure Insurance—The current environmental insurance marketplace offers three distinct mechanisms for closure/post-closure insurance: (1) what the industry refers to as “straight risk transfer,” (2) “fronted” policies, and (3) “finite risk” programs.

1. **“Straight Risk Transfer” Policy**—Like most liability insurance, risk transfer closure/post-closure policies simply involve a premium payment to an insurer in exchange for the insurer assuming a specified risk. Closure/post-closure policies are written on an annual renewable basis (with the insurer having limited cancellation/nonrenewal options) with a limit of liability equal to the required financial assurance obligation. There are three key cost elements of the risk transfer structure:

- A. The insurer may seek collateral in the amount of 25–75 percent or more of the obligation. The amount of collateral required is determined by the financial strength of the owner/operator, the type of facility, and the years to closure.
- B. Annual premiums for closure insurance fall in the 1.5–3.5 percent of the required limits.

(Limits required will be the same as the financial assurance obligation.)

C. As the closure/post-closure work progresses toward completion, the financial assurance obligation amount decreases. If the reduction is approved by the governing agency, the insurer may, over time, reduce the collateral it requires and the premium will decrease as well.

At least three insurers—Great American, Zurich, and XL Environmental—offer straight risk transfer for closure/post-closure financial assurance, although their premiums and collateral requirements may vary significantly.

- 2. **“Fronted” Program**—A fronted program uses the same methodology as a risk transfer program with one major difference. In a fronted program the insurer provides its “paper” but does not offer any risk transfer. Rather, the insurer is providing an insurance policy with the specified limits and coverage—backed up by its own financial strength and rating—to post financial assurance to the regulatory agencies. The risk of loss is transferred back to the insured by a written indemnity agreement with the insurer. Thus, the insurer is “fronting” for the insured, and taking the credit risk that the insured may not be able to honor the written agreement and repay any losses the insurer incurs. The amount of collateral required will depend on the limits that must be posted, the nature and duration of the obligation, and the strength of the insured’s financials. Several insurers are willing to provide “fronted” financial assurance policies. Premiums are often *significantly* less than premiums would be for a third-party liability policy.
- 3. **Finite Risk Program**—A finite risk program is essentially an insurance policy that the owner/operator *funds* with an insurer. The owner/operator pays the net present value of the financial obligation into a “commutation”

fund held by the insurer. The insurer then issues a long-term insurance policy designed to cover the entire closure/post-closure period. To set up the finite risk program, insurers will charge a premium of 2–5 percent of the obligation. This premium is driven primarily by cost and task uncertainty in the closure/post-closure cost estimates, the timing of the closure/post-closure expenditure as well as the financial position of the owner/operator. Because the financial assurance obligation that must be demonstrated is discounted to present value, this mechanism allows the owner/operator to pay in less than the full obligation amount. It also allows the owner/operator to draw on the funding in the insurance policy as it performs the closure/post-closure. Chartis and Zurich offer this option, but again, pricing and terms vary. Sometimes an insurer may be more inclined to offer the financial assurance if the insured has other lines of coverage with the insurer, but it is by no means a given.

Environmental Third-Party Liability Insurance—

Federal and state regulations also require posting of specified limits of financial assurance for bodily injury and property damage caused to third parties by “sudden” and “non-sudden” accidental occurrences. Multiple insurers offer this coverage, although their level of interest varies. Some may require collateral in addition to premium, depending on how they view the financial strength of the insured. Premiums may range from 1–2.5 percent of the limits required.

Determining the Right Financial Assurance Mechanism(s)

Owners/operators faced with financial assurance requirements need to explore the cost of the various instruments as well as their impact on their credit line, particularly if they have a large portfolio of TSDFs or solid waste landfills. Depending on an insurer’s or surety provider’s interest, the difference in cost to owners/operators can be hundreds of thousands of dollars in premiums, and millions of dollars in precious collateral. The optimal financial assurance program may include the use of several mechanisms in order to

achieve compliance. Determining how to structure a program is a dynamic exploratory process that requires assessment of the viability, structure, and cost-benefit based upon

- owner/operator balance sheet and rating of long-term debt
- bond capacity, rate, and collateral requirements
- line of credit capacity and rate
- current financial assurance structure, if any
- strength of insured’s relationship with insurers and regulators, and strength of an insurer’s relationship with regulators.

Why Environmental Insurance for Financial Assurance?

In recent history, over 55 percent (\$2.1 billion) of all RCRA closure/post-closure financial assurance requirements, and at least 70 percent (\$822 million) of all RCRA corrective action financial assurance requirements, were fulfilled with the financial test or a corporate guarantee. Strained balance sheets brought by the economic downturn have forced many owners/operators to seek alternatives. In doing so, many have discovered the advantages of using environmental insurance. These include the following:

- Insurance allows an owner/operator to preserve its credit line and enhance its cash flow by having a third party take on some of the risk for potential cleanup, closure or post-closure care.
- Environmental insurance may allow less erosion of financial assurance due to economic downturns than other financial assurance mechanisms, e.g., the financial test (dwindling earnings and weakened balance sheets) and more costly LOCs. This is particularly true if a “soft” insurance market occurs at the same time as an economic downturn, which is the case today. If the market should harden at the same time as an economic downturn, then environmental insurance premiums might actually increase and more collateral may be required, similar to other mechanisms.

- Insurance is one of the few mechanisms that, when structured as a straight risk transfer program, reduces the possibility the owner/operator may have to pay for, or provide reimbursement for, third-party liability claims.
- Insurance may require less premiums and less collateral than surety alternatives.
- Securing environmental insurance involves working with insurers/providers that specialize in and understand environmental exposures and costs, so there is another set of eyes evaluating the engineering cost estimates and financial strength of the organization posting the financial assurance.
- Using environmental insurance may allow some owners/operators to spread their various credit-based risks over more insurers/providers.
- Many environmental insurance policies are assignable, although this requires an insurer's review and consent.

State and federal regulators should also welcome increased use of environmental insurance. Unlike other financial assurance mechanisms, with environmental insurers, regulators should find comfort in the fact that (1) underwriters and engineers with environmental expertise have reviewed the technical soundness and financial estimates of closure/post-closure plans of the owners/operators *and* the insurer's credit analysts have reviewed their financial strength; (2) insurers are evaluated and rated by numerous rating agencies, just as other financial institutions are; (3) environmental insurers are required by state insurance regulators to post sufficient reserves for coverages they write; and (4) in the event a policy must be triggered, environmental insurers—because *their business* is managing environmental risk—may be better positioned to ensure that closure/post-closure and corrective actions are appropriately performed. Insurers also may be able to reduce the cost of closure/post-closure/corrective action because they have significant influence with environmental consulting firms and law firms, and thus may have more purchasing power in terms of the required services.

Despite the advantages to owners/operators and to regulators, there can be some challenges to using

environmental insurance. First, as few will argue, insurance policies often have a language of their own, and may require more than one reading, as well as conversations with an experienced broker or the insurer, before they are fully understood. In addition, because each insurer's policy is different, some regulators may request that the policies be amended to meet specific state requirements. The financial woes of AIG (now Chartis) in 2008 may also cause regulators to critique environmental coverage more so than other mechanisms. Ironically, this is the case even though in providing the coverage, environmental insurers have scrutinized to the technical feasibility and cost estimates of the landfills or treatment facilities for which they are providing coverage, *in addition to* reviewing the owner/operator's financial condition. This scrutiny is critical to insurers because once they are "on the risk," they are "on the hook" for providing the financial assurance (and performing closure or post-closure, if necessary) until the insured secures a replacement mechanism. The policy cannot be canceled until a replacement policy or mechanism is filed with the regulators, so insurers are *very* discerning in the financial assurance risks they are willing to take on.

Another potential concern, particularly given that EPA has indicated it will develop financial assurance regulations for four *additional* industries, is whether there is enough capacity in the environmental insurance marketplace—and even among other financial assurance providers—to fulfill the demand that such rulemaking may create. Within the last year EPA has indicated it will develop financial assurance regulations for hard rock mining, chemical manufacturing, petroleum and coal products manufacturing, and electric power generation, transmission, and distribution. Although there are at least three environmental insurers willing to write closure/post-closure coverage, their terms and approaches vary significantly, and each has limits on the total amount of financial assurance it can offer the regulated community. Although overall financial assurance capacity of the environmental insurance marketplace is difficult to estimate, it is safe to say it is currently insufficient to fulfill more than a fraction of the regulated community's annual financial assurance obligations. It remains to be seen if insurers will be willing to provide

more capacity to address the increased need that will result from EPA's financial assurance rulemaking

Conclusion

The goal of regulators is to never have to actually use any of the financial assurance mechanisms posted by owners/operators, but to ensure that they are there if needed. With the many company failures, restructuring, and realignments that have occurred and continue to occur, regulators are placing additional emphasis on the importance of financial assurance to prevent closure/post-closure, corrective action, and third-party claims from becoming yet another burden on taxpayers. To ensure the most economical means of posting financial assurance, companies and local governments facing these obligations should explore all the mechanisms allowed by the regulations. In many instances, a financial analysis of the cost of the mechanisms, as well as how the mechanisms may affect the entity's cash flow and credit line, may point to environmental insurance as a very attractive alternative, or an enhancement to a current financial assurance program.

Elizabeth Bannister is a managing director, and **Patricia Blau** and **Janet R. Carl** are senior vice presidents in the Environmental Practice of Marsh U.S.A. Inc. They have substantial experience assisting organizations in meeting their financial assurance obligations.

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PLASTIC BAG BANS, TAXES, AND RECYCLING PROGRAMS ACROSS THE NATION

Heidi Price Knight

The California Supreme Court recently decided to hear Manhattan Beach's appeal of the suspension of its ordinance banning single-use plastic bags. The ordinance, passed in July 2008, prohibited certain retailers from providing single-use plastic bags to customers at the point of sale, but permitted the use of reusable bags and recyclable paper bags as an alternative. The appellate court concluded that the city was required to prepare an environmental impact report (EIR) on account of the ban's potential significant impact on the environment. *See Save the Plastic Bag Coal. v. City of Manhattan Beach*, 181 Cal. App. 4th 521 (Jan. 27, 2010) (depublished), review granted, No. S180720 (Apr. 21, 2010). Coincidentally, a bill now being considered by the California State Assembly (A.B. 1998) calls for statewide legislation that would prohibit certain retailers from providing such single-use plastic bags after January 1, 2012, and impose a fee on paper bags.

Single-use plastic bags were first introduced in U.S. supermarkets in the late 1970s as a convenience for grocery shoppers. By 2003, the U.S. population was using approximately 87.5 billion plastic bags annually. *See* U.S. International Trade Commission, POLYETHYLENE RETAIL CARRIER BAGS FROM CHINA, MALAYSIA, AND THAILAND, Publication 3710, Sec. IV-12 (Aug. 2004). One plastic bag can take up to 1,000 years to break down in the environment, thereby potentially contaminating soil and waterways. The bags can then terminally entangle birds and lead to the death of marine life that have ingested the bags mistaken for food. Manhattan Beach adopted its ban after concluding that there is "a strong possibility that plastic bags discarded in Manhattan Beach can end up in the ocean where they will last indefinitely and create an aesthetic blight and potential hazard to marine life." *Save the Plastic Bag Coal.*, 181 Cal. App. 4th at 527.

In an effort to reduce the amount of plastic bag litter in the environment, and to protect marine life, in 2007,

San Francisco enacted the nation's first citywide ban on supermarket and pharmacy distribution of single-use plastic bags to customers at the point of sale. Since then, multiple U.S. municipalities have enacted similar legislation, including Fairfax, Calif., Malibu, Calif., Palo Alto, Calif., Westport, Conn., Kauai County, Hawaii, Maui County, Hawaii, Marshall County, Iowa, Outer Banks, N.C., Brownsville, Tex., Edmonds, Wash., and at least 30 villages/communities in western Alaska.

However, the plastic bag industry maintains that the bans themselves have a potential significant impact on the environment. In *Save the Plastic Bag Coalition*, the plaintiff association alleged that the city's plastic bag ban would result in an increased use of paper bags, which would have a more significant environmental impact than plastic bags. *Id.* at 529. According to the association, the use of paper bags increases the consumption of energy and water, emission of climate-changing greenhouse gases, occurrence of acid rain, negative air quality, water body eutrophication, and solid waste production. *Id.* Indeed, at least one U.S. Environmental Protection Agency (EPA) region has concluded that single-use plastic bags, when compared to their paper counterparts, require 40 percent less energy to manufacture, generate 80 percent less waste, and take up a lot less space in landfills. *See EPA Region 1, QUESTIONS ABOUT YOUR COMMUNITY: SHOPPING BAGS: PAPER OR PLASTIC OR . . . ?* (Feb. 28, 2006). (providing additional comparisons).

In addition to the current case against Manhattan Beach, the Save the Plastic Bag Coalition and other similar associations have sued, or threatened to sue, other localities for similar reasons. *See, e.g., Save the Plastic Bag Coal. v. City of Palo Alto*, Case No. 1-09-CV-140463 (Cal. Super. Ct. filed Apr. 20, 2009) (plaintiff agreed to dismiss lawsuit with prejudice so long as City agreed to prepare an EIR for any future ordinances that would restrict single-use plastic bags at other types of stores; current version of ordinance still prohibits large supermarkets from offering such bags at checkout counters); *Coal. to Support Plastic Bag Recycling v. City of Oakland*, Case No. RG07-339097 (Cal. Super. Ct. filed Aug. 3, 2007) (court issued injunction against plastic bag ordinance for City's failure to review environmental impacts

associated with ban). *See also* KSBW.com, PAPER OR PLASTIC? HOW ABOUT NEITHER, Apr. 14, 2010 (Santa Cruz County supervisors approved ordinance that will ban use of plastic bags and impose surcharge on paper bags, but only after completion of an EIR).

There are alternatives to banning the use of plastic bags. For instance, legislators could mandate or encourage retailers and consumers to recycle their plastic bags. These recovered plastic bags can be recycled into, for instance, backyard decking, fencing, railings, shopping carts, and new bags. It is estimated that only 5.2 percent of plastic bags were recycled in 2005. Since 2006, however, several states—including California, Delaware, New York, and Rhode Island—have passed laws mandating that certain retailers establish at-store plastic bag recycling programs. *See* Cal. Pub. Res. Code § 42250 et seq.; Del. Code Ann. tit. 7, § 6099A; N.Y. Envtl. Conserv. § 27-2701 et seq.; R.I. Gen. Laws § 23-18.11-3.1. In addition, several U.S. cities have implemented mandatory or voluntary recycling programs, including Phoenix, Ariz., Tucson, Ariz., Chicago, Ill., Annapolis, Md., Baltimore, Md., Philadelphia, Pa., and Austin, Tex.

To promote the use of reusable bags, and to provide funding for waste reduction and recycling initiatives, legislators could require retailers to impose a 5-cent tax or "user fee" on each plastic or paper bag dispensed at checkout. Federally, the Plastic Bag Reduction Act (H.R. 2091) was introduced last year to amend the Internal Revenue Code to impose a retail tax on any single-use carryout bag—a 5-cent tax before January 1, 2015, and a 25-cent tax thereafter. There has been no action on this bill since it was referred to the House's Natural Resource Committee on April 29, 2009. New York state introduced a similar bill (A06537) to impose a 15-cent tax on the plastic bags; this bill has been held for consideration in the Ways and Means Committee since July 1, 2010. Several other states—including Alaska, Arizona, California, Colorado, Connecticut, Hawaii, Maine, Maryland, Massachusetts, Nevada, Texas, and Virginia—have attempted to pass similar taxes, but to no avail. Nevertheless, last year, the District of Columbia imposed a 5-cent fee on each plastic or paper bag dispensed by specified retailers. Since taking effect January 1, the District's plastic bag use

dropped from roughly 22.5 million per month in 2009 to 3.3 million in January 2010.

Lastly, instead of a 5-cent tax, legislators could encourage retailers to offer a 5-cent credit to their customers for each reusable bag used to pack their purchases, to give away free reusable bags, and/or to post signage in stores and parking lots reminding customers to use their reusable bags. To date, retailers providing such monetary incentives include Albertsons, Andronico's, CVS, Giant, Starbucks, Target, and Whole Foods. Not only would customers save money and help the environment, but, at least according to my practical husband, it is easier to carry one reusable bag than three or four plastic bags that may rip or tear.

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EVOLVING FLUORESCENT LAMP PACKAGING REQUIREMENTS

Peder Larson

Mercury lamps are fragile and they break, whether they are compact fluorescent lamps or traditional linear lamps. When they break they release mercury vapors that are dangerous. Studies show that a small number of broken lamps can release vapors that exceed state and federal health-based standards. Most recently, a study prepared by Professor Lisa Brosseau of the University of Minnesota School of Public Health and published in the *Journal of the Air and Waste Management Association*, entitled "Preventing Mercury Vapor Release from Broken Fluorescent Lamps During Shipping," concluded that mercury-containing fluorescent lamps must be stored and transported in packaging that prevents the release of mercury vapors from broken lamps to protect against unhealthy exposure to the mercury. The study also concluded that most commercially available containers do not meet that standard.

Federal regulations do not, however, require the use of packaging designed to prevent the loss of mercury vapors. That may change. More recent federal regulations applicable to other mercury wastes (like

switches, thermostats, and thermometers) require management in packaging designed to prevent the loss of mercury vapor. A new law in the state of Washington requires that many lamps be managed in containers that prevent the loss of mercury vapors, and the state of Wisconsin recently considered language that would require mercury vapor containment for household lamps.

U.S. EPA Regulation

Federal environmental and transportation regulations contain packaging requirements for fluorescent lamps. The federal environmental requirements and most state requirements for lamp packaging are similar. They were established by the U.S. Environmental Protection Agency (EPA) in 1999 and are silent on the loss of mercury vapors. They require that lamps be managed in containers designed to prevent breakage and that the packages "remain closed and must lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions." 40 C.F.R. 273.13(d). Neither federal nor state regulations require that the container be designed to prevent the loss of mercury vapors.

Compare that packaging standard to the newer standard for mercury-containing equipment adopted by EPA in 2005. The 2005 regulations specifically require that "mercury-containing equipment" be managed in containers designed to prevent the loss of mercury vapors. 40 C.F.R. 273.13 (c) Those requirements apply to mercury wastes such as mercury switches, thermostats, and thermometers.

U.S. DOT Regulation

Federal transportation requirements promulgated by the U.S. Department of Transportation (DOT) also provide packaging standards for fluorescent lamps (referred to in the regulations as "mercury vapor tubes"). Those regulations require that shipments of lamps be contained in packaging that prevents the escape of mercury.

In practice, however, those DOT packaging requirements will rarely, if ever, apply to packages of used mercury lamps. Based on the rules and the mercury content of used lamps, the DOT standards only apply to packages containing more than 250 typical compact fluorescent lights (CFLs) or low-

mercury fluorescent lamps or 100–200 other types of fluorescent lamps. Most used lamps are transported in far smaller containers.

Here is how the applicability is determined. Federal requirements for transporting “hazardous materials” are contained in Title 49 of the Code of Federal Regulations. Specific packaging standards for shipment of articles containing mercury, including “mercury vapor tubes,” are contained in 49 C.F.R. § 173.164. According to 49 C.F.R. § 173.164(b) the regulations do not apply to packages containing less than 1 gram of mercury:

Manufactured articles or apparatuses, each containing not more than 100 mg (0.0035 ounce) of mercury and packaged so that the quantity of mercury per package does not exceed 1 g (0.035 ounce) are not subject to the requirements of this subchapter.

According to EPA, an average CFL contains 4 milligrams of mercury. (Source: USEPA Energy Star July 2008) The Northeast Waste Management Officials’ Organization states that about half of the fluorescent lamps manufactured by the major lighting manufacturers and sold in the United States contain 5 to 10 milligrams of mercury, while a quarter contain 10 to 50. Lamps referred to as “low-mercury” generally contain 3.5 to 4 milligrams of mercury.

Assuming the average CFL or low-mercury lamp contains 4 milligrams of mercury per lamp, packages containing less than 250 CFLs or low-mercury lamps are exempt because the package will contain less than 1 gram of mercury (250 lamps at 4 milligrams/lamp or .004 grams/lamp contain 1 gram of mercury). Similarly, packages containing less than about 100–200 other types of lamps will also be exempt.

In addition, DOT regulations are relatively lax. They allow transport of used lamps in the original manufacturer’s packaging for a lamp, even though that packaging is almost certainly not designed to prevent the loss of mercury vapors. The DOT standard allows lamps (as long as each lamp contains less than five grams of mercury) to be transported in the “manufacturer’s original packaging” as long as the package contains less than 30 grams of total mercury. Based on the mercury content assumptions described above, the DOT standard allows a lamp generator to transport any reasonable quantity (up to 1000 typical

CFLs or low-mercury lamps) in the manufacturer’s original packaging.

Finally, most generators of used lamps are unlikely to comply with one specific requirement of DOT regulations. A shipper of used lamps must provide a “shipping paper” that indicates the quantity of mercury contained in the package. 49 C.F.R. § 173.164(c)(3)(iii). This requirement does not exist under federal and state universal waste rules that specifically exempt lamp generators and transporters from this type of record keeping in hopes of encouraging lamp recycling.

New State Laws

Last March the state of Washington adopted a comprehensive new system for mercury lamp recycling. Included in the new law are specific packaging requirements. The law will require “mercury vapor barrier packaging” for used lamps collected in mail-back programs, transported by the U.S. Postal Service or by common carrier or collected in curbside collection programs.

The state of Wisconsin recently considered legislation that would apply the newer EPA mercury-containing equipment packaging standard to used lamps from households. If adopted, the law would require those lamps to be managed in containers “designed to prevent the escape of mercury into the environment by volatilization or other means.”

Conclusion

Environmental practitioners know that most federal environmental laws followed the lead of state laws and regulations. Mercury waste regulation is no exception. Today most mercury lamps are not recycled and states are increasingly indicating that they will take action to fix that problem. As those state laws evolve, states will also consider imposing more specific packaging requirements to supplement the minimal requirements imposed by federal regulations. EPA’s container requirements for mercury-containing equipment provide a simple and effective standard for states to extend to mercury-containing lamps. Now that one state has taken that step and another is considering it, watch for similar activity in other states.

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