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Recycling Secondary Manufacturing Materials Before They Become Waste

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The quantity of waste materials generated and disposed in the United States is staggering. The U.S. Environmental Protection Agency estimates that we generate annually approximately 250 million tons of municipal solid waste, 7.6 billion tons of industrial solid waste (including wastewater) and over 34 million tons of hazardous waste. Most of that waste is disposed in landfills or streams (following wastewater treatment) or incinerated. The costs to the waste generators and the environmental impacts on communities are among the significant drawbacks of this practice.

Many of the wastes are secondary materials such as spent materials, byproducts or sludges produced by the manufacturing process. A spent material is a used material that as a result of contamination can no longer serve the purpose for which it was produced without processing. Sludge is material generated from a wastewater treatment plant (other than treated effluent) or from an air pollution control facility. A byproduct is a material that is not one of the primary products of, nor separately produced by, the manufacturing process. (See 40 C.F.R. §261.1(c).)

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There is a better way to address the waste problem: reusing or otherwise recycling the materials before they become wastes. Managing secondary materials as a valuable resource can reduce a company's raw material costs, lessen or avoid waste disposal costs, eliminate the environmental risks from disposal, and minimize the energy, water and other resources required to manufacture or procure new materials.

Given these obvious benefits, companies choosing to dispose of secondary materials that they generate must perceive significant obstacles to recycling them. Two of the barriers may appear particularly formidable. A company unable to reuse its materials in its own processes may lack information concerning which other companies may be able to do so. Although some exchange facilities exist to help match material generators and users, a much more robust information exchange network is needed.

Second, the generator must determine whether the secondary material is classified as a "solid waste," a term that includes wastes in solid, liquid or gaseous form. If so, regulatory requirements may severely limit recycling options. Nevertheless, current environmental regulations establish meaningful opportunities for recycling secondary materials.

The Resource Conservation and Recovery Act (RCRA) regulates solid wastes "from cradle to grave." The classification of material as solid waste triggers RCRA's provisions. Because "hazardous wastes" comprise a subset of "solid wastes," a material that is not a solid waste is not regulated as a hazardous waste. The RCRA strikes a balance between regulating wastes to protect the environment and fostering the recycling of secondary materials.

The RCRA defines a solid waste to include any "discarded material."

The RCRA does not define the term "discarded." In the context of its administration of the hazardous waste provisions of RCRA (Subtitle C), the EPA adopted the Definition of Solid Waste rule. Because of the DSW rule's complexity, a company may struggle to apply it to particular factual circumstances.

Courts have given the EPA wide but not unlimited latitude in subjecting secondary materials to regulation.

The rule defines solid waste to include abandoned, recycled and inherently waste-like material. A recycled material is one that is used or reused as an ingredient to make a product or as an effective substitute for a commercial product, or that is reclaimed by processing it to recover a reusable product.

At first blush, these definitions appear to classify most secondary materials as solid wastes. However, the regulations provide numerous exclusions. The EPA's definition of "discarded" excludes a hazardous secondary material that is generated and legitimately reclaimed in the United States under the control of the generator. The material must not be speculatively accumulated, not subject to material-specific management conditions when reclaimed, and not a spent lead acid battery or certain other specifically identified hazardous materials. This generator-controlled exclusion may be helpful to companies desiring to reuse their own secondary materials.

The EPA also excludes from the category of solid wastes hazardous secondary material that is generated and then transferred to another person for the purpose of reclamation. The EPA requires that the material not be speculatively accumulated, not handled by any person other than the generator, a transporter or an intermediate facility (subject to time restrictions) or a reclaimer. In addition, the generator must make reasonable efforts to ensure that each reclaimer intends to properly and legitimately reclaim the secondary material and will manage the material in a protective manner. This transfer-based exclusion provides opportunity for secondary materials to be sent to off-site users.

One of the EPA's principal concerns is to avoid the potential environmental harm that may occur if a company avoids compliance with RCRA's waste disposal requirements by cloaking waste disposal in the garb of recycling. The 2008 DSW rule distinguishes legitimate recycling from sham recycling by focusing on four legitimacy factors: (1) the hazardous secondary material must provide a useful contribution to the recycling process or to a product or intermediate, (2) the recycling process must produce a valuable product or intermediate, (3) the hazardous secondary material must be managed as a valuable commodity, and (4) the recycling process must produce products containing concentrations of hazardous constituents not significantly greater than in analogous products. The EPA proposed a change to the DSW rule in 2011, not yet adopted, that would in most instances make demonstration of all four of these factors mandatory.

Although the rule contains a labyrinth of further exclusions, a few additional provisions merit highlighting here. The regulations recognize that materials that are used or reused as ingredients in an industrial process to make a product and were not reclaimed, material used or reused as effective substitutes for a commercial product, and materials returned to the original process as a substitute for feedstock materials resemble the ordinary usage of commercial products and are not solid wastes. In contrast, most secondary materials that are applied to land, used to produce products that are applied to land, burned to recover energy or reclaimed, or accumulated speculatively are classified as solid wastes.

Courts have given the EPA wide but not unlimited latitude in subjecting secondary materials to regulation. When the EPA attempted to regulate materials beneficially reused as part of an ongoing manufacturing process at the facility where they were generated, the court held in American Mining Congress v. EPA, 824 F.2d 1177 (D.C. Cir. 1982), that the materials were not solid wastes. Courts have agreed with the EPA that secondary materials recycled by a different facility may also

remain outside of RCRA's reach. (See, e.g., Safe Food and Fertilizer v. EPA, 350 F.3d 1263 (D.C. Cir. 2003), reconsidered and remanded, 365 F. 3d 46 (D.C. Cir. 2004).) The Safe Food court emphasized that the EPA properly exempted materials where the market participants treated them as valuable products and produced products chemically indistinguishable from products made from virgin materials. In contrast, materials sent to an off-site reclamation facility have been classified as solid wastes when found to be "part of the waste disposal problem," as in American Petroleum Institute v. EPA, 906 F.2d 729 (D.C. Cir. 1990).

In one recent decision, Premier Associates v. EXL Polymers, No. 1:08-cv-03490-SCJ (8th Cir. Feb. 5, 2013), a carpet manufacturer shipped secondary carpet manufacturing materials known as selvedge to a manufacturer of building materials for recycling into other products. The plaintiff asserted that the recycler of the materials was accumulating them speculatively and had stopped performing recycling. The court concluded that even if these facts were shown, to the carpet manufacturer's knowledge the selvedge had been diverted for recycling. Accordingly, the court held that the material was not a solid waste under the RCRA.

The regulation of nonhazardous solid wastes is for the most part left to state regulation. Pennsylvania's beneficial-use program under the Solid Waste Management Act applies to municipal and residual wastes. Materials excluded from the definition of solid waste under the DSW rule may still be subject to Pennsylvania's residual waste rules. Pennsylvania does not regulate as wastes nonhazardous materials that are returned as feedstock to the process that generated them, or that are reused as ingredients in an industrial process to make a product or employed as substitution for a commercial product, unless the materials are reclaimed.

Likewise, co-products are not classified as wastes. A co-product is a material generated by a manufacturing or production process or a spent material consistently equivalent to the physical and chemical composition of an intentionally manufactured product or produced raw material. A co-product determination must demonstrate that the material present is no greater threat of harm to human health or the environment than use of the product or raw material due to toxicity levels or the bioavailability of toxic constituents.

In contrast, materials that are reclaimed prior to being recycled, used in a manner constituting disposal, used to produce products that are applied to land, burned for energy recovery, used to provide fuel or accumulated speculatively are wastes unless and until granted beneficial-use approval.

Pennsylvania has issued general permits regulating the beneficial use of some municipal and residual waste. To be covered by a general permit, the company must register or request a determination of applicability with the general permit terms. General permits have been issued for numerous wastes, including antifreeze, asphalt wastes, coal ash and combustion wastes, contaminated soil, tires, wastewater treatment sludges, and natural gas well brines. Companies interested in recycling nonhazardous materials should review the existing list of beneficial-use permits.

As the foregoing discussion demonstrates, recycling presents both challenges and opportunities. The regulatory challenges derive from the complexity of the recycling rules and the cost of compliance. The opportunities presented include substantial cost savings to a company and benefits to society from minimizing disposal risks and conserving natural resources. The current regulatory regime could be improved by greater focus on the management of secondary materials and less emphasis on the application of rigorous hazardous waste requirements. Greater efforts could be made to encourage the development of markets for secondary materials, and regulatory burdens could be further reduced where the market shows that the materials have economic value. Until that occurs, companies can benefit from the recycling opportunities that currently exist, even if they require guidance to navigate the complex regulatory regime. •