February 2014

RCRA 101: A Course in Compliance for Colleges and Universities

Joseph F. Scavetta

Follow this and additional works at: http://scholarship.law.nd.edu/ndlr

Part of the Law Commons

Recommended Citation
Available at: http://scholarship.law.nd.edu/ndlr/vol72/iss5/15

This Note is brought to you for free and open access by NDLScholarship. It has been accepted for inclusion in Notre Dame Law Review by an authorized administrator of NDLScholarship. For more information, please contact lawdr@nd.edu.
I. Introduction

A variety of industries and institutions can generate, transport, and dispose of hazardous waste. Currently, America creates hazardous waste at a rate of up to 300 million metric tons per year. Hazardous waste originates from many sources, ranging from large industrial manufacturers to colleges and universities. While this may not be surprising, the volumes of regulations that govern the creation, storage, and movement of hazardous waste is. Many colleges and universities operate research facilities, medical centers, storage units, and campus transportation services without an understanding of the federal and state statutes and regulations that affect these operations. Each year, many colleges and universities face fines and potential lawsuits from noncompliance with federal and state standards. This Note will discuss some aspects of the federal program that Congress established under the Resource Conservation and Recovery Act (RCRA or the Act) and that are most likely to affect operations at colleges and universities.

Congress enacted RCRA in 1976 as an amendment to the Solid Waste Disposal Act of 1965 (SWDA). The original SWDA attempted to improve solid waste disposal methods that had developed in conjunction with the heyday of domestic industrial production after World War II. As the country produced more goods, it also created more hazardous and solid waste. Solid waste constitutes virtually any material that is disposed of, while hazardous waste is a subset of solid waste that the Environmental Protection Agency (EPA) and Congress have determined to be harmful to human health and the environment. In the 1970s, Congress decided to tighten the SWDA controls on the production and management of hazardous and solid waste with the RCRA amendments. By passing these amendments, Congress

4 Id. at III-3 to III-4.
wanted to accomplish three goals: to protect human health and the environment, to conserve energy and natural resources, and to reduce or eliminate the generation of hazardous waste as quickly as possible.\(^5\) RCRA authorizes the EPA to promulgate regulations in the Code of Federal Regulations (CFR)\(^6\) to accomplish these goals. The Act enables the EPA to create requirements for the four types of hazardous waste handlers: generators, transporters, treators, and disposers of hazardous waste.\(^7\) The proactive regulations strive to limit human and environmental exposure to toxic constituents of hazardous waste. Along with these management standards, the regulations also require those who generate hazardous waste to implement waste minimization plans in an effort to decrease the amount of hazardous waste that these generators create. In addition, the regulations encourage hazardous waste reclamation by relaxing the management standards for recycled wastes.\(^8\)

The EPA has developed various programs under RCRA to achieve the three congressional goals. The programs pertain to nonhazardous solid waste as well as the hazardous waste subset. The solid waste statutory provisions could affect any college or university that disposes of or incinerates solid waste on-campus or that sends solid waste off-campus for disposal or destruction.\(^9\) The hazardous waste program could affect any college or university that has on- or off-campus science laboratories, medical facilities, or waste or chemical storage units. Thus, universities that manage nonhazardous solid waste or hazardous waste may fall into the RCRA universe.

Exposure to the requirements of the RCRA statute and regulations depends greatly on the size of the university and the types of activities conducted by that institution, its students, and its faculty. Part II of this Note outlines the program that the EPA has created to manage nonhazardous solid waste, while Part III outlines the program to manage hazardous waste. Because the regulations are considered "cradle-to-grave" management standards,\(^10\) anyone who handles haz-

---

\(^5\) Id. at I-1 to I-2


\(^7\) See 42 U.S.C. §§ 6921-6939e. This portion of RCRA is commonly referred to as Subtitle C. The regulations that correspond to Subtitle C can be found in 40 C.F.R. pts. 260-269.

\(^8\) 40 C.F.R. §§ 261.2-3.

\(^9\) See 42 U.S.C. §§ 6941-6949a. This portion of RCRA is commonly referred to as Subtitle D. The portion of the regulations that correspond to Subtitle D can be found in 40 C.F.R. pts. 257-258.

\(^10\) ORIENTATION MANUAL, supra note 3, at I-6 (1990). "Cradle-to-grave" means that the RCRA program, including both the statute and the regulations, prescribe...
ardous or solid waste during the lifetime of the waste may be subject to RCRA. Knowing how hazardous and solid waste are defined is one of the best ways to understand whether a college or university is subject to RCRA. Part IV describes the requirements of hazardous waste generators. Of the four major types of hazardous waste handlers, most colleges and universities would come under the auspices of RCRA by virtue of their hazardous waste generation activities. Part V discusses some of the EPA's enforcement activities at colleges and universities in recent years. In addition, this Part outlines two cases that clarify the citizen suits provisions of RCRA which may be used by people living near a university to enforce the RCRA statute or regulations.\footnote{11}

II. Nonhazardous Solid Waste

Understanding the definition of solid and hazardous waste can help colleges and universities assess whether their activities fall within the scope of the RCRA requirements. Under the SWDA as amended by RCRA, Congress wanted to regulate all types of solid wastes. As Congress required,\footnote{12} the EPA wrote separate regulations for solid and hazardous waste. Because hazardous waste is a subset of solid wastes that can be more harmful to human health and the environment, hazardous wastes are subject to more stringent standards.

A. Subtitle D Definition of Solid Waste

While all hazardous wastes are solid wastes, the regulations that govern nonhazardous solid waste are quite different from those that govern hazardous wastes. Congress wrote Subtitle D of RCRA to deal with solid wastes. The term "solid waste" is rather broad and includes traditional notions of waste such as household garbage and commercial refuse. Congress defined solid waste as "garbage, refuse, sludge from a wastewater treatment plant or water supply plant, or other discarded material."\footnote{13} In addition, not all solid wastes need to be solid: many types of solid wastes are liquids, semisolids, and gases.\footnote{14}

Congress also established exceptions to the definition of solid waste in RCRA.\footnote{15} Untreated sewage passing through a sewer system, management standards for hazardous waste from the time it is created, by whatever means, until the time it is safely disposed.

\footnote{11} 42 U.S.C. § 6972.
\footnote{12} Id. § 6921.
\footnote{13} Id. § 6903(27).
\footnote{14} Id.
\footnote{15} Id.; see also 45 Fed. Reg. 33,066, 33,097–101 (1980).
industrial wastewater discharges regulated under the Clean Water Act (CWA),\textsuperscript{16} irrigation return flows, and nuclear materials are not considered solid wastes.\textsuperscript{17} For colleges and universities, this means that sewage passing from dormitories and classroom buildings to a publicly-owned treatment works (POTW) would not be regulated under RCRA. Any nuclear materials used at on-campus laboratories or power plant facilities would not fall under RCRA regulation. Instead, these nuclear materials would be regulated under the Atomic Energy Act of 1954.\textsuperscript{18} In addition, any irrigation return flows that arise from agricultural activities would not fall under the purview of RCRA.

\begin{center}
\textbf{B. Regulating the Disposal Facility}
\end{center}

Under Subtitle D, Congress established a solid waste management program with two main aspects. First, Congress created solid waste disposal facility criteria as a means of controlling solid waste disposal sites. These facilities are called municipal solid waste landfills (MSWLF). Second, Congress outlined guidelines for states to implement these facility criteria. These guidelines require each state to submit a plan that describes how the state will implement the MSWLF criteria of RCRA.\textsuperscript{19} Because almost everything can be considered a solid waste when discarded, Congress chose a basic approach that established criteria for the facilities that would serve as the final resting place for the discarded solid waste. Unlike the hazardous waste requirements which cover "cradle-to-grave" management, solid waste regulations mainly deal with the "grave" aspect: the disposal facility. The EPA has published regulations in the CFR to implement the MSWLF criteria.\textsuperscript{20}

For colleges and universities, these MSWLF criteria are important under the state implementation plans. Depending on the state, colleges and universities may have to certify that off-campus facilities receiving waste from on-campus comply with the minimum federal landfill standards. As for colleges and universities that have some form of on-campus MSWLF, the regulations describe which facilities would be subject to landfill criteria. These criteria do not apply to landfills that accept less than twenty tons per day of municipal solid

\textsuperscript{17} 42 U.S.C. § 6903(27) (1994).
\textsuperscript{18} Id. §§ 2011 to 2297g-4.
\textsuperscript{20} See generally id. pts. 257–58.
waste if the operator of the landfill has not contaminated the surrounding groundwater.\textsuperscript{21}

These MSWLF criteria include measures for airport safety, flood damage prevention, and earthquake damage protection.\textsuperscript{22} Because many MSWLF attract birds, MSWLF must be located at least 10,000 feet from airports to prevent birds from interfering with air traffic.\textsuperscript{23} Also, MSWLF located within a flood plain must have special measures in place that prevent the solid waste from escaping during a flood.\textsuperscript{24} Lastly, MSWLF cannot be located in any seismic zones or within 200 feet of any faults to prevent serious migration of the solid waste during an earthquake.\textsuperscript{25} The EPA considers any disposal facility that does not comply with the MSWLF criteria as an "open dump" that must either upgrade its operations or close.\textsuperscript{26}

III. Hazardous Waste

A. The Relationship Between Solid and Hazardous Waste

Determining what is a hazardous waste will help colleges and universities understand if they must comply with RCRA management standards. This determination can be a complicated task. Congress tried to simplify the process by requiring the EPA to establish both a list of specific hazardous wastes, as well as characteristics of hazardous waste.\textsuperscript{27} Anyone who generates solid waste must determine if the waste is hazardous based on the listing or the characteristics.\textsuperscript{28} If the waste is not hazardous (that is, just solid waste), then the waste can be sent to MSWLF. If the waste is hazardous, however, the generator becomes subject to RCRA. This subsection will shed light on how colleges and universities can determine whether their solid waste falls into the subset of hazardous waste.

Congress gave a broad statutory definition to hazardous waste under RCRA. The definition states that hazardous waste is:

\begin{quote}
    solid waste, or a combination of solid wastes, which because of their quantity, concentration, or physical, chemical, or infectious characteristics may (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating re-
\end{quote}

\begin{itemize}
\item \textsuperscript{21} Id. § 258.1(e).
\item \textsuperscript{22} See 56 Fed. Reg. 50,978 (1991) (discussing municipal landfill criteria).
\item \textsuperscript{23} 40 C.F.R. § 258.10(a).
\item \textsuperscript{24} Id. § 258.11(a).
\item \textsuperscript{25} Id. §§ 258.13(a), 258.14(b).
\item \textsuperscript{26} Id. § 258.1(h) (implementing 42 U.S.C. § 6945(a) (1994)).
\item \textsuperscript{27} 42 U.S.C. § 6921(b) (1994).
\item \textsuperscript{28} 40 C.F.R. § 262.11.
\end{itemize}
versible, illness or (2) pose a substantial present or potential hazard to human health and the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.\textsuperscript{29}

Because hazardous wastes are defined in terms of solid wastes, materials must first be solid wastes in order to be hazardous waste. Having an exact regulatory definition of solid waste, therefore, becomes much more important when dealing with hazardous waste regulations than when dealing with MSWLF regulations.

Any “discarded” material is considered a solid waste.\textsuperscript{30} Materials are considered “discarded” when they are disposed of, burned or incinerated, applied to or placed on the land, burned for energy recovery, reclaimed, or accumulated under the guise that the material will be recycled.\textsuperscript{31} If materials are not going to be “discarded” in any of the forms listed in this regulation, then the materials cannot be solid waste or, therefore, hazardous waste. If the materials fall into the definition of solid waste, the next step is to determine whether the materials are excluded from the hazardous waste realm.

**B. Hazardous Waste Exclusions**

RCRA lists materials that are excluded from the hazardous waste universe.\textsuperscript{32} The EPA incorporated these exclusions into the regulations either directly from the statute or after conducting a congressionally mandated study. In RCRA, Congress required the EPA to study certain wastes, and to issue reports to Congress discussing whether these wastes should be excluded from hazardous waste regulations.\textsuperscript{33} The exclusions can either prevent materials from being considered solid wastes or prevent solid wastes from being considered hazardous wastes. In either case, the material will not be subject to the hazardous waste requirements in either the statute or the CFR.

The EPA lists all of the materials that are not solid wastes even when they are being “discarded.”\textsuperscript{34} Along with the four statutory exclusions mentioned in the MSWLF discussion above,\textsuperscript{35} the regulations also exclude materials such as mining wastes, any material recycled in

\begin{itemize}
\item \textsuperscript{29} 42 U.S.C. § 6903(5).
\item \textsuperscript{30} 40 C.F.R. § 261.2(a)(1).
\item \textsuperscript{31} \textit{Id.} § 261.2(a).
\item \textsuperscript{32} \textit{Id.} § 261.4.
\item \textsuperscript{33} 42 U.S.C. § 6982.
\item \textsuperscript{34} 40 C.F.R. § 261.4(a).
\item \textsuperscript{35} \textit{See supra} Part II.B.
\end{itemize}
a closed-loop system, and spent wood preservative being reclaimed for its original purpose. The EPA lists the statutory and regulatory provisions that keep certain solid wastes from being considered hazardous. Some of these exclusions include solid waste that arises from the following sources: households; natural gas exploration, development or production; mineral extraction, processing or beneficiation; mining operations; animal raising; crop growing and harvesting; and, oil filter draining. Some of these exclusions are more pertinent to colleges and universities since they encompass activities conducted either on- or off-campus.

The household hazardous waste exclusion would apply to any solid waste that is “derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).” These solid wastes could include any discarded cleaning solutions, smoke detector batteries, or fluorescent light bulbs. At colleges and universities, the household hazardous waste exclusion would include wastes from dormitories but would not apply to wastes from classroom or administrative buildings. The hazardous waste exemptions for solid wastes derived from animal raising and crop cultivation benefit colleges and universities engaged in these agricultural activities. RCRA specifies that solid wastes generated from these agricultural activities must be returned to the soils as fertilizers in order to benefit from the exclusion. Although the EPA intends to give farmers and ranchers an exclusion that addresses the common practice of reusing some wastes as fertilizer, colleges and universities that engage in these activities would also benefit from the exclusion. The exclusion for used oil filters would apply to any college or university that conducts maintenance on any of its own automobiles or buses. Another exemption allows people who change and properly drain their own used oil filters to dispose of the filters without testing them for

---

36 40 C.F.R. § 261.4(a); see also 50 Fed. Reg. 614, 639 (1985). A "closed-loop" system generally requires the waste material produced from any process to be fed back into the same process without ever leaving the system. Id.
37 40 C.F.R. § 261.4(a); see also 45 Fed. Reg. 33,066, 33,101 (1980).
39 40 C.F.R. § 261.4(b)(1).
40 Id. § 261.4(b)(2).
high levels of lead or benzene that could subject the filters to hazardous waste standards.\textsuperscript{42}

\textbf{C. Laboratory Exemptions}

Another exclusion arises when hazardous wastes are sent to laboratories for either testing or treatability studies.\textsuperscript{43} The EPA includes this exemption to protect laboratories that deal with hazardous waste. The EPA believed that if these laboratories did not receive relief from the regulations, then they would be discouraged from assisting those who need the expertise of the scientific community.\textsuperscript{44} Any sample of solid waste that is sent to a laboratory to determine whether it is hazardous waste will not fall under the hazardous waste requirements, even after the laboratory determines that the waste is hazardous.\textsuperscript{45} RCRA excludes the testing laboratories under this exemption as well.\textsuperscript{46} The EPA also excludes both the laboratories where treatability study samples are sent\textsuperscript{47} and the collectors of any treatability study samples.\textsuperscript{48} A treatability study is defined as a study where hazardous waste is subjected to a treatment process to determine whether the waste is amenable to that treatment process, what the optimum conditions would be for treating that type of hazardous waste, the efficiency of the treatment process, and how much residue is created by using this treatment.\textsuperscript{49}

For samples to qualify for these various laboratory exemptions, the sample collector must comply with any applicable Department of Transportation (DOT) and U.S. Postal Service (USPS) requirements when sending the sample off to be tested or studied. If neither DOT nor USPS specifies any requirements, then the sample collector must package the sample according to the RCRA regulations for test samples\textsuperscript{50} or for treatability study samples.\textsuperscript{51} The laboratory must return the sample to the sample collector using the same procedures required of the collector, in order to fall under the exemption. If both the sample collector and the laboratory have complied with the regulations, then the sample is excluded from regulation during transpor-
tation, storage at the collector's before transport to the laboratory, and storage at the laboratory before and after any testing.\textsuperscript{52}

Additional regulations apply to treatability study sample collectors and laboratories conducting treatability studies. The collector must limit the size of the treatability study sample to no more than 1000 kilograms (about 2200 pounds). The collector must package the treatability study sample so that the sample will not leak, spill, or vaporize. RCRA lists these and other additional treatability study sample requirements.\textsuperscript{53}

The laboratory must notify the EPA Regional Administrator\textsuperscript{54} at least forty-five days before conducting the treatability study and obtain an EPA identification number.\textsuperscript{55} The laboratory cannot store on-site more than 1000 kilograms (about 2200 pounds) of samples from all sources combined. All studies must be conducted within one year from the date that the samples were collected; however, once the studies have been completed, the samples can only be kept on-site for up to ninety days. Records at the laboratory must indicate compliance with these special requirements and they must be kept three years after completion of each treatability study. RCRA lists these and other treatability study laboratory requirements.\textsuperscript{56}

For both testing and treatability study samples, the exemption covers the sample while it is being collected, transported to the laboratory, used at the laboratory, and returned to the collector. Anyone who handles the sample during any of these phases will also be excluded from regulation if the special procedures are followed. College and university laboratories that conduct either testing or treatability studies would, therefore, be excluded from hazardous waste regulation for these activities as long as these requirements are met.

\textsuperscript{52} Id. § 261.4(d)(1)(i)-(vi).
\textsuperscript{53} Id. § 261.4(e)(2)(i)-(iv).
\textsuperscript{54} The United States is divided into 10 different regions, Region I to Region X. Each region is responsible for administering most EPA programs within that region. Each region has its own Regional Administrator who acts in conjunction with the EPA Administrator at EPA Headquarters in Washington, D.C.
\textsuperscript{55} EPA requires many facilities that deal with hazardous waste to obtain an EPA identification number (EPA ID number) so that EPA can keep track of various activities that involve hazardous waste, even when the facility is only lightly regulated by RCRA. Section IV \textit{infra} on hazardous waste generators further discusses EPA ID numbers.
\textsuperscript{56} 40 C.F.R. § 261.4(f)(1)-(11).
D. Definition of Hazardous Waste

As discussed above, Congress defined hazardous waste in the RCRA statute.\(^5\) The EPA was required to develop the regulatory framework that would identify those solid wastes that must be managed as hazardous wastes.\(^5\)\(^8\) According to RCRA,\(^5\)\(^9\) a solid waste that is not excluded from hazardous waste regulation is subject to hazardous waste controls if the waste (1) exhibits a characteristic of hazardous waste,\(^6\)\(^0\) (2) has been listed as a hazardous waste,\(^6\)\(^1\) (3) is a mixture of listed hazardous waste and nonhazardous solid waste,\(^6\)\(^2\) or (4) is derived from the treatment, storage, or disposal of hazardous waste.\(^6\)\(^3\)

1. Listed Hazardous Waste

The EPA developed three types of hazardous waste categories to classify the various "listed wastes" under RCRA regulation. Basically, the EPA listed substances that are considered hazardous wastes based on the criteria Congress established in the statutory definition of hazardous waste.\(^6\)\(^4\) Each of these three categories is called a "listing." The first type of listing deals with non-specific source wastes.\(^6\)\(^5\) As the name indicates, the EPA does not specify from which processes these wastes come. The source of the waste does not matter when deciding if a listing applies. Some examples of this type of listed waste include spent halogenated and non-halogenated solvents, spent cyanide plating bath solutions, wastewater treatment sludge from any type of electroplating operation, and dioxin wastes.\(^6\)\(^6\) The EPA designated any waste listed as a non-specific source waste with the letter "F."\(^6\)\(^7\)

The second type of hazardous waste listing deals with wastes from specific sources.\(^6\)\(^8\) On this list, the EPA identified certain industries such as wood preserving, petroleum refining, pesticide manufacturing, and veterinary pharmaceutical manufacturing.\(^6\)\(^9\) Under each in-

---

59 40 C.F.R. § 261.20(a).
60 The four characteristics of hazardous waste are found at id. §§ 261.21–24.
61 There are three types of hazardous waste listing found at id. §§ 261.31–33.
62 Id. § 261.3(a)(2)(iv); see also 46 Fed. Reg. 56,582 (1981).
63 Id. § 261.3(c)(2).
65 40 C.F.R. § 261.31(a) (1996).
66 Id.
67 Id. There is no information about why the EPA picked the letter "F" or any of the other letter designations.
68 40 C.F.R. § 261.32.
69 Id.
dustry, the EPA listed wastes that are typically generated within that industry, such as wastewater treatment sludges, spent catalysts, still bottoms, and residues. Examples of this type of waste include wastewater treatment sludge from the production of chrome yellow and orange pigments or slop oil emulsion solids from the petroleum refining industry. The EPA designated any listed waste from specific sources with the letter "K." The third types of listed hazardous waste deals with commercial chemical products (CCP). The EPA listed chemical products and chemical intermediates that can be considered hazardous wastes. Unlike F- and K-listed wastes, CCPs are not waste that result from the end products of a process. Instead, CCPs become hazardous waste when the owner decides to discard them or when the CCPs become off-specification by no longer being able to fulfill their original intended purpose. The EPA defines a CCP as a:

chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste.

Container and spill residues of CCPs can also be considered hazardous waste. The EPA designated any acutely toxic CCP wastes with the letter "P" and regular CCP wastes with the letter "U." The EPA encourages CCP recycling by reducing the regulations that attach to CCP reclamation. CCPs going for reclamation are not even considered solid waste. Colleges and universities should utilize this exemption from hazardous waste whenever chemicals have outlasted their usefulness for their original intended purpose. Instead of discarding the chemicals and becoming subject to regulation, institutions can recycle these chemicals by finding alternative uses for them.

---

70 Id.
71 Id.
72 Id. § 261.33.
73 Id. § 261.33(e)–(f).
74 Id. § 261.33(d) cmt.
75 Id. § 261.33(e).
76 Id. § 261.33(f).
77 Id. § 261.2.
2. Characteristic Hazardous Waste

Based on the statutory definition of hazardous waste in the RCRA statute, the EPA identified four characteristics that can be used to determine whether solid waste is hazardous. Solid waste that meets the EPA definitions of ignitable, corrosive, reactive, or toxic will be considered hazardous waste.\textsuperscript{78} Many of the listed wastes mentioned above would also test positive for at least one of the four characteristics. The difference between strictly characteristic hazardous wastes and listed wastes is that the generator of the characteristic waste need not have any knowledge of the process that generated the waste to accurately identify the characteristic that makes a solid waste hazardous. Because the generator of hazardous waste must make this determination, the EPA tried to limit the characteristics to those that the generator could discern without complicated testing methods.\textsuperscript{79}

First, the EPA defines the hazardous waste characteristic of ignitability.\textsuperscript{80} Solid waste that exhibits any of the following properties is considered hazardous waste due to ignitability: liquids that spontaneously combust at over 140°F, non-liquids that are capable of spontaneous and sustained combustion under normal conditions, DOT oxidizers, or ignitable compressed gas under DOT regulations.\textsuperscript{81} Solutions containing less than twenty-four percent alcohol are not considered hazardous waste in order to prevent certain beverages from being regulated as hazardous waste when disposed.\textsuperscript{82} The EPA includes ignitable wastes under the definition of hazardous wastes to identify wastes that are likely to cause fires during transportation, storage, or disposal.\textsuperscript{83} Hazardous wastes that exhibit the characteristic of ignitability are assigned the waste code “D001.”

Second, the EPA defines the hazardous waste characteristic of corrosivity.\textsuperscript{84} Solid waste that exhibits either of the following properties is considered a hazardous waste due to corrosivity: aqueous materials with a pH less than or equal to two, or greater than or equal to 12.5; or, liquids that corrode steel at a rate greater than one-quarter of

\begin{itemize}
    \item \textsuperscript{78} Id. §§ 261.21–24.
    \item \textsuperscript{79} Orientation Manual, supra note 3, at III-5.
    \item \textsuperscript{80} 40 C.F.R. § 261.21.
    \item \textsuperscript{81} Id. § 261.21(a) (1)–(4).
    \item \textsuperscript{82} Id. § 261.21(a) (1); see also Memorandum from John H. Skinner, Office of Solid Waste, U.S. EPA, to Kevin J. Walter (Feb. 26, 1985).
    \item \textsuperscript{83} Orientation Manual, supra note 3, at III-6.
    \item \textsuperscript{84} 40 C.F.R. § 261.22.
\end{itemize}
an inch per year at 130°F. The definition does not allow solid materials to be considered corrosive. The EPA regulates corrosive wastes because they can react violently with other wastes and can cause other wastes to leach hazardous constituents upon contact. Corrosive wastes may also damage the integrity of their containers, thus having the potential to come into contact with other wastes unexpectedly. Hazardous wastes that exhibit the characteristic of corrosivity are assigned the waste code “D002.”

Third, the EPA defines the hazardous waste characteristic of reactivity. Solid waste that exhibits any of the following properties is considered a hazardous waste due to reactivity: unstable and reacts violently without detonation, reacts violently with water, forms an explosive mixture with water, generates toxic gases when mixed with water, could detonate at standard temperature and pressure, contains cyanide or sulfide and generates toxic gases at a pH between two and 12.5, or listed by DOT as an explosive. The EPA regulates reactive wastes because of their instability, with a potential to cause an explosion or noxious fumes at any stage of their management. Hazardous wastes that exhibit the characteristic of reactivity are assigned the waste code “D003.”

The fourth characteristic of hazardous waste, toxicity, works quite differently from the first three. The EPA lists the forty various constituents that can cause solid waste to be considered hazardous due to toxicity. To determine if a solid waste possesses any of these constituents, generators must either test the waste or apply their knowledge of the waste. Usually generators can use knowledge alone to determine whether the waste must be regulated as hazardous; however, testing may be more appropriate if generators believe their waste will “pass” the Toxicity Characteristic Leaching Procedure (TCLP). The EPA requires generators to use the TCLP method if they choose to test the waste because the method simulates conditions in a landfill that might cause a potentially hazardous waste to leach one of the forty constituents. EPA lists the maximum concentration of constituents.

---

85 Id. The pH scale is a logarithmic scale from zero to 14 used to determine whether a substance is highly acidic (low pH) or highly basic (high pH). A substance that is either acidic or basic can burn the skin and cause serious injuries.
86 Id. § 261.23.
87 Id.
88 Id. § 261.24.
89 Id. § 262.11(c).
uents allowed under the TCLP and the appropriate waste code that
generators must use if the waste fails the TCLP for that constituent.\textsuperscript{91} If the solid waste has leachate concentrations greater than the regulatory levels, then the waste "fails" the TCLP and EPA considers the waste to be hazardous, with all appropriate regulations attaching. For example, solid waste that, according to the TCLP, has a leachate containing more than five milligrams per liter of lead would be considered hazardous waste due to its toxicity for lead and would be assigned a waste code of "D008."\textsuperscript{92} Generators must take a representative sample of the solid waste when conducting the TCLP or any other test method to determine whether a waste exhibits one of the four characteristics of hazardous waste.\textsuperscript{93}

3. Mixture and Derived-From Wastes

Besides being listed or characteristic, solid wastes are hazardous when mixed with or derived from hazardous waste. The EPA decided that any mixtures of nonhazardous solid waste and hazardous waste would need to be managed as hazardous. The EPA outlines the "mixture rule" in the regulations by stating that solid wastes are hazardous wastes when mixed with one or more of the characteristic or listed hazardous wastes.\textsuperscript{94} If generators of hazardous waste do not know and have no reason to know if their solid waste has been mixed with a listed or characteristic hazardous waste, then generators must test the mixture for any of the characteristics. If the mixture fails the TCLP, then the entire mixture is considered hazardous waste.\textsuperscript{95} This regulation also includes the exemptions to the "mixture rule" which prevent certain mixtures of solid and hazardous waste from being regulated as hazardous waste.\textsuperscript{96}

Solid wastes that are derived from hazardous wastes are automatically considered hazardous wastes themselves.\textsuperscript{97} The EPA has included some exclusions to the "derived-from" rule in the same section of the regulations. In general, this rule states that any sludge spill residue, ash, emission control dust, or leachate that is generated from the treatment, storage, or disposal of hazardous waste is itself hazardous waste. For the generator, this rule simplifies any hazardous waste

\textsuperscript{91} 40 C.F.R. § 261.3(a) (2) (iv).
\textsuperscript{92} Id. § 261.3(a) (2) (iii).
\textsuperscript{93} Orientation Manual, supra note 3, at III-8.
\textsuperscript{94} 40 C.F.R. § 261.3(a) (2) (iv).
\textsuperscript{95} Id. § 261.3(a) (2) (iii).
\textsuperscript{96} Id.; see also 46 Fed. Reg. 56,582 (1981).
\textsuperscript{97} 40 C.F.R. § 261.3(c) (2) (i).
determination that he would have to make for any of these "derived-from" wastes.

The "derived-from" rule creates problems when deciding when a waste is no longer hazardous. If solid waste derived from the treatment of hazardous waste is always hazardous, it would seem impossible to render a waste "no longer hazardous." But the EPA recognizes that its procedures for listing hazardous waste may not always be applicable. Generators of potentially hazardous waste can petition the EPA to have their waste excluded from the universe of hazardous waste regulation by submitting a delisting petition. Petitioners must demonstrate to the EPA that their waste is not hazardous due to facility-specific variations in the process that generated the waste. Someone who treats hazardous waste would need to demonstrate to the EPA that the derived-from waste was no longer hazardous. If the original waste was a characteristic hazardous waste, the generator does not need to petition the EPA. Instead, he need only demonstrate that the resultant waste no longer exhibits the hazardous waste characteristic.

IV. GENERATORS

For colleges and universities that create hazardous waste, understanding how the EPA defines hazardous waste is only the first step. Familiarity with what is encompassed within the definition of hazardous waste will enable colleges and universities to know whether they have hazardous waste on-campus. If institutions meet the definition of a generator, then they are subject to the generator standards. The term "generator" includes (1) any facility that first creates hazardous waste or (2) any person who first makes the hazardous waste subject to regulation, such as a hazardous waste importer. As stated above, generators of hazardous waste are themselves responsible for determining whether they have a hazardous waste. If colleges or universities generate solid waste on-campus, they are responsible for determining whether the waste is hazardous. If the waste is hazardous, institutions must then determine their obligations under the generator regulations.

98 Id. §§ 260.22, 260.30–31. Hazardous waste generators may submit delisting petitions to their appropriate EPA Regional Administrator when they believe that the waste created at their facility, while technically meeting a listing description, does not pose a risk to human health and the environment.
99 Id. § 261.3(d)(1).
100 Id. pt. 262, § 260.10.
101 Id. § 260.10; see also 45 Fed. Reg. 72,024, 72,026 (1980).
102 40 C.F.R. § 262.11.
A. Quantity Standards

The regulations for hazardous waste generators are divided into categories that depend on the amount of waste generated at a facility. The EPA established the three separate classifications as large quantity generators (LQGs), small quantity generators (SQGs), and conditionally exempt small quantity generators (CESQGs). LQGs are hazardous waste generators which generate over 1000 kilograms (about 2200 pounds) of hazardous waste in a calendar month.\textsuperscript{103} SQGs are hazardous waste generators which generate between 100 and 1000 kilograms (between about 220 and 2200 pounds) of hazardous waste in a calendar month.\textsuperscript{104} CESQGs are hazardous waste generators which generate less than 100 kilograms of hazardous waste in a calendar month.\textsuperscript{105} Because this type of generator creates so little hazardous waste, the EPA has allowed them to be “conditionally exempt” from the regulations.

1. Conditionally Exempt Hazardous Waste Generators (CESQGs)

In order for CESQGs to retain their exemption, they must comply with the special RCRA requirements.\textsuperscript{106} CESQGs cannot accumulate more than 1000 kilograms of hazardous waste on-site at any time. CESQGs that either generate more than the 100-kilogram limit or accumulate more than 1000 kilograms of hazardous waste on-site at any time become subject to regulation as SQGs.\textsuperscript{107} CESQGs must ensure that their hazardous waste is either treated on-site or sent off-site to an appropriate hazardous waste treatment facility. According to RCRA, CESQGs can even send their hazardous waste to a facility that has been “permitted, licensed, or registered by a State to manage municipal solid waste.”\textsuperscript{108} This provision can greatly reduce the cost of sending hazardous waste to a fully permitted hazardous waste treatment or disposal facility. Instead, colleges and universities that are CESQGs can send their wastes to landfills that are in compliance with the MSWLF criteria. Some states, however, do not recognize the “conditionally exempt” status.\textsuperscript{109} Colleges and universities should become familiar with both the federal and state generator criteria to ensure full compliance.

\textsuperscript{103} Id. § 262.34(a); see also 51 Fed. Reg. 10,146 (1986).
\textsuperscript{104} 40 C.F.R. § 262.34(d).
\textsuperscript{105} Id. § 261.5(a)(1).
\textsuperscript{106} Id. § 261.5.
\textsuperscript{107} Id.; see also 51 Fed. Reg. 10,146, 10,151–53(1986).
\textsuperscript{108} 40 C.F.R. § 261.5(g)(3)(iv).
\textsuperscript{109} Orientation Manual, supra note 3, at III-19.
2. Large and Small Quantity Generators

Most colleges and universities with large research facilities are likely to fall into either the SQG or LQG category. Both LQGs and SQGs must notify the EPA of their hazardous waste management activity by applying to the EPA for an EPA Identification Number. In order for these generators to accumulate their waste on-site, they must comply with accumulation tank or container requirements. In addition, SQGs that accumulate over 6000 kilograms (about 13,200 pounds) of hazardous waste on-site at any time would require a storage permit. For LQGs, hazardous waste can be accumulated in these tanks or containers for up to ninety days without a storage permit. To qualify for the ninety-day accumulation allowance, the accumulation area must have both trained personnel and an emergency preparedness and prevention plan. SQGs, however, can accumulate wastes for up to 180 days without complying with either the personnel training or emergency plan requirements.

If generators comply with these accumulation requirements, they may treat their own hazardous waste on-site without obtaining a treatment permit. Normally under RCRA, anyone who treats hazardous waste must obtain a permit to do so. For generators, however, the EPA has relaxed the regulatory requirements:

Of course, no permitting would be required if a generator chooses to treat their [sic] hazardous waste in the generator's accumulation tanks or containers in conformance with the requirements of §262.34. ... Nothing in §262.34 precludes a generator from treating waste when it is in an accumulation tank or container covered by that provision.

This reprieve from the permitting requirements allows colleges and universities to conduct small-scale treatment of their own hazardous waste on-campus. Evaluating treatment technology on-campus can be a valuable research tool as well. This on-site treatment will either render their hazardous waste nonhazardous or reduce the volume and toxicity of the waste. In both cases, colleges and universities

110 40 C.F.R. § 262.12.
111 See id. § 262.34(a)(1) for LQGs; see id. § 262.34(d)(2), (3) for SQGs.
112 Id. § 262.34(d)(1).
113 Id. § 262.34(a).
114 Id. § 262.34(a)(4) states that LQGs must comply with the standards of id. pt. 265, subpts. C, D, which are the emergency plan requirements for storage facilities, and id. § 265.16, which are the personnel training requirements for storage facilities.
115 Id. § 262.34(d).
116 Id. § 270.1(c).
will spend less money on hazardous waste treatment conducted at an off-site facility. Transportation costs may also be reduced since the on-site treatment may decrease the amount of hazardous waste shipped off-site.

3. Satellite Accumulation

Sometimes it may be inconvenient to immediately move hazardous waste from the point of initial generation to an appropriate accumulation tank or container. The EPA allows LQGs and SQGs to accumulate up to fifty-five gallons of hazardous waste at or near the point of generation in “satellite accumulation” areas. Once the fifty-five-gallon limit has been met, the generator has three days to make certain that this waste is sent from the “satellite accumulation” area to the appropriate on-site accumulation tanks or containers. For colleges and universities, this provision can be extremely useful in all of the various on-campus laboratories. Instead of immediately moving wastes from a chemistry laboratory to an on-site accumulation tank or container, institutions can create waste stations in the laboratory, where researchers or students can safely discard waste. This greatly decreases the frequency of hazardous waste traffic through any given building that generates hazardous waste.

4. Manifest and Transporter Requirements

In addition to the on-site standards for generators, the EPA requires both LQGs and SQGs to complete a hazardous waste manifest to accompany any shipments of hazardous waste off-site. This allows the EPA and the generator to track the movement of hazardous waste from “cradle-to-grave,” from the point of initial generation to the ultimate treatment or disposal facility. The manifest must contain the quantity of the waste being shipped and name and address of the facility designated to receive the waste from the generator. According to RCRA, only off-site shipments of hazardous waste need be accompanied by a manifest. Thus, colleges and universities can move their waste on-campus without issuing a manifest for the waste.

If the manifest requirement does not attach to the waste, then neither do the transporter requirements of RCRA. The standards applicable to transporters of hazardous waste apply only to wastes that

119 40 C.F.R. § 262.34(c)(2).
120 Id. § 262.20.
121 Id.
122 Id.
require a manifest under the generator standards.\textsuperscript{123} Colleges and universities can ship their waste within their own sites without meeting the transporter regulations because manifests would not be required. Thus, transporter standards do not apply to on-site transportation of hazardous waste by generators.\textsuperscript{124} While these regulations seem to indicate that institutions can freely transport their own hazardous waste anywhere on-campus, it becomes apparent below that the "on-site" qualification can severely limit free access to all parts of campus.

\textbf{B. Definition of "On-Site"}

After understanding the differences between the various quantity standards, colleges and universities that generate hazardous waste will need to learn more about how to determine this quantity. The regulations state that "generator means any person, by site, whose act or process produces hazardous waste identified or listed in [RCRA]."\textsuperscript{125} Colleges and universities that generate hazardous waste will need to examine what "site" and "hazardous waste" mean. The definition of hazardous waste has been discussed above and the definition of "site" will be discussed below.

1. The Current Definition

The definition of "on-site" plays an important role when colleges and universities determine which RCRA regulation are applicable to their activities. First, the amount of hazardous waste generated "on-site" in a calendar month helps institutions decide their LQG, SQG, or CESQG status. Because each "site" must obtain its own EPA ID number, institutions with one campus that do not fall into the definition of "on-site" may need to obtain multiple EPA ID numbers. Second, colleges and universities may change generator status, depending on the amount of hazardous waste accumulated "on-site." In addition, institutions may need to obtain storage permits when accumulation limits are exceeded.\textsuperscript{126} Third, hazardous waste transporter regulations become applicable to colleges and universities that remove their hazardous waste from an "on-site" location.\textsuperscript{127} Because of the current definition of "on-site," these transporter regulations may attach when institutions merely transport waste from on-campus

\textsuperscript{123} \textit{Id.} § 263.10(a).
\textsuperscript{124} \textit{Id.} § 262.10(b).
\textsuperscript{125} \textit{Id.} § 260.10.
\textsuperscript{126} \textit{Id.} § 262.34(a).
\textsuperscript{127} \textit{Id.} § 263.10(a).
satellite accumulation areas to on-campus accumulation tanks and containers.

For colleges and universities that have easily discernible boundaries, this discussion may at first seem unnecessary. However, even a quick glance at the regulatory definition of “on-site” will dispel any hopes of simplicity. The EPA defines “on-site” as follows:

On-site means the same or geographically contiguous property which may be divided by public or private right-of-way, provided that the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is [sic] also considered on-site property.\(^{128}\)

According to this definition, the location and control of roads within a campus and the contiguous nature of campus buildings plays an important role in determining whether two different on-campus locations would be considered “on-site.”

2. The EPA Examines Campuses

In a memorandum written in 1983, the EPA addressed the interplay between the definition of “on-site” as it relates to college campuses and the three issues mentioned above:

Several basic configurations exist for college campuses. The rural or suburban campus might have several buildings on one contiguous piece of property. This would be considered a single or individual generation site even though one or more hazardous wastes are generated from one or more sources. One EPA ID number would be assigned, and . . . generator status would be determined by looking at the total hazardous waste generated or accumulated on the [campus].

Many university campuses are divided by public roads . . . [that] they do not control. Metropolitan campuses are frequently constructed on a number of adjoining city blocks where the various campus buildings are separated by city streets but the buildings may be connected by tunnels or overhead walkways. Even in these cases, each generation site (i.e., each city block or each [portion] of a campus bisected by a public road) would be a generator . . . and assigned its own EPA ID number.\(^{129}\)

\(^{128}\) Id. § 260.10.

In the same memorandum, the EPA also addressed the transporter requirements that colleges and universities might face. Institutions would be required to comply with the transporter standards when hazardous waste is shipped from one portion of campus to another, if the two portions are required to have two different EPA ID numbers. However, the EPA also makes an exception to the transportation requirements for colleges and universities:

The one exception is when the waste is shipped directly across [or perpendicular to] the road. In this case, the receiving building [or portion of campus] is considered 'on-site,' as defined in 40 C.F.R. [§ 260.10 even though both sites [on opposite sides of the street] are required to have separate EPA ID numbers.\textsuperscript{131}

The EPA decided that wastes shipped on-campus from one site to another would not have to comply with transporter standards when the shipping consisted only of crossing a public road, as opposed to driving along the public road. The definition of "on-site" also reflects this distinction.\textsuperscript{132}

The simplest model that the EPA envisioned would consist of a campus where all buildings and areas were contiguous, with only private and no public roads. All places at an institution with this simple design would be considered on-site. This institution would, therefore, need only one EPA ID number since there would be only one "site." No transportation of hazardous waste would become subject to hazardous waste transportation standards. Once campuses become "bi-sected," however, colleges and universities may need more that one EPA ID number. In addition, they may need to comply with transporter requirements to ship wastes within the same campus if the on-campus locations are on different portions of the campus.

3. Proposed Change to the Definition of "On-Site"

In a recent military munitions rule,\textsuperscript{133} the EPA proposed to change the definition of "on-site," which may relieve colleges and universities from having to comply with the transportation standards.\textsuperscript{134} The rule proposes to allow contiguous property under control of the same generator to be considered "on-site," regardless of public roads that may bisect the property and regardless of any transportation that may take place on these public roads. The proposed rule adds to the

\textsuperscript{130} Id.; see also 40 C.F.R. §§ 262.20(a), 263.10(a).
\textsuperscript{131} Monthly Report, supra note 129.
\textsuperscript{132} 40 C.F.R. § 260.10.
\textsuperscript{134} 40 C.F.R. pt. 263.
current regulatory definition of “on-site” by stating, “[o]n-site includes contiguous property comprised of an individual generation site and/or facility under the control of one person, regardless of whether it is divided by a public or private right-of-way and whether access is by crossing, as opposed to going along, the right-of-way.”

Contiguous portions of a campus would be considered “on-site” under the new definition. These portions of campus would have access to the same central accumulation tanks and containers without having to either comply with transporter standards or obtain an additional EPA ID number. The EPA recognized that this proposal would help decrease the regulatory burden on many colleges and universities. “This change will provide military installations and other large facilities (such as universities or large industrial complexes) greater flexibility in handling wastes on site and will eliminate redundant paperwork requirements (e.g., by eliminating the manifest [and, therefore, the transporter] requirement).”

Later in the same explanation of the proposed rule, the EPA added that a reduction in the regulatory burden would also play a role in reducing the potential for public exposure to hazardous waste on college campuses:

Today’s proposal, however, would apply to hazardous waste generators . . . in general, because the same situation exists for non-military entities. For example, a number of universities, with laboratories and other sources of small amounts of hazardous waste dispersed throughout campuses, have found that the manifesting and transportation requirements make it difficult to consolidate wastes at a single location for off-site shipment under the current requirements. Similarly, large industrial facilities may face the same administrative or logistical difficulties . . .

Reducing barriers to consolidation of wastes in one main area . . . will reduce the possibility that the public will come into contact with hazardous waste. . . . The new definition gives . . . universities more flexibility to determine where consolidation areas are situated.

The EPA wants colleges and universities to locate their accumulation tanks and containers in places on campus where public exposure will be at a minimum. The EPA believes that this goal can be better achieved by reducing the redundant regulations that currently surround on-campus hazardous waste shipments. Currently, this rule is

---

136 Id. at 56,470.
137 Id. at 56,483.
only in the proposal stages and will not become effective until the EPA specifies a date in the pending final rule.

C. Waste Minimization and Biennial Reporting

When a generator ships waste off-site, the generator must use a manifest. On every manifest that leaves the site, generators must certify that they have programs in place to reduce the volume and toxicity of the hazardous waste. This program may be limited to good faith measures that the generator finds economically practicable. In addition, generators must certify that they have made attempts to minimize the amount of hazardous waste produced on-site. Generators must retain copies of their manifests, with the signed certifications, for three years after the date the initial transporter shipped the waste off-site.

LQGs bear the additional burden of having to file a Biennial Report to their EPA Regional Administrator. By March 1 of every even-numbered year, every LQG must submit information about their hazardous waste activity. The report must include information about the hazardous waste transporters, treatment facilities, and disposal facilities that LQGs employ. In addition, the report should indicate what wastes had been generated on-site in the previous two calendar years. Lastly, LQGs must again certify that they have implemented waste minimization programs on-site. The certification should include a description of efforts to reduce the volume and toxicity of hazardous waste generated on-site and of the reductions actually achieved as a result of these efforts. The regulations specifically exempt SQGs from this Biennial Report requirement.

V. Enforcing RCRA

A. The EPA Enforcement Actions

When colleges and universities do not comply with the hazardous waste regulations, they may face EPA penalties. The EPA initiates enforcement actions against colleges and universities through one of its

138 40 C.F.R. § 262.20(i).
140 Id.
141 40 C.F.R. § 262.40(a).
142 Id. § 262.41(a).
143 Id.
144 Id. § 262.41(a) (6)-(7).
145 Id. § 262.44.
ten regional offices, depending on the location of the campus. Under RCRA, Congress gave the EPA the ability to work out disputes with alleged statutory violators through the consent decree process.\textsuperscript{146} Often, institutions will agree to comply with the Consent Decree and Final Order that the EPA issues in order to avoid a lawsuit. Within the last six years, the EPA has entered into at least four of these agreements with colleges and universities.

1. The University of Texas at Austin

The University of Texas at Austin (Texas) signed one such Consent Decree and Final Order with EPA Region VI on April 20, 1992.\textsuperscript{147} As an LQG, Texas was required to reduce the volume and toxicity of the waste that the university generated and list the techniques used to achieve this reduction.\textsuperscript{148} In addition, Texas was required to report this waste minimization information, along with the result of the reduction techniques, to the EPA in the university’s Biennial Report.\textsuperscript{149}

Alleging that Texas failed to comply with this waste minimization and reporting requirement, the EPA initiated enforcement activities against the university. As a result, the two parties reached an agreement whereby Texas would implement a waste minimization plan,\textsuperscript{150} which addresses the wastes generated in laboratory projects and experiments that both students and professors had conducted. The EPA felt that the plan would be effective because the hazardous waste generated in the laboratories at Texas accounted for almost ninety percent of the hazardous waste at the Austin campus. Texas agreed to make this waste minimization plan available to large academic research institutions to help other universities comply with the same requirement and to encourage waste minimization, which is one of the primary goals of the RCRA program.\textsuperscript{151} Additionally, Texas agreed to sponsor waste minimization seminars for other institutions as well.

2. The University of Wyoming

The University of Wyoming (Wyoming) signed a Consent Decree and Final Order with EPA Region VIII in 1992.\textsuperscript{152} The primary com-
plaint that the EPA issued alleged incidents of illegal treatment and disposal of hazardous waste, including open burning treatment units. In the RCRA regulations, the EPA defines open burning as combusting materials without controlling either the efficiency of the burn or the emissions of gas. Because open burning is a form of treatment, Wyoming would have needed a permit to conduct the activity and would have needed to train personnel to oversee the operation. In addition, the EPA alleged that Wyoming violated RCRA by failing to notify the EPA of these on-campus hazardous waste activities.

When the EPA and Wyoming entered into the agreement, Wyoming agreed to certain sanctions. The EPA required Wyoming to submit a comprehensive waste minimization plan that addressed hazardous waste generated on-campus. In addition, the EPA requested that Wyoming complete a personnel training scheme for the on-campus workers who dealt with hazardous waste. Wyoming also agreed to pay a $43,000 penalty for the various RCRA violations. At the time, this was the largest settlement between the EPA and a public educational institution.

3. Washington State University

The EPA commenced this enforcement action against Washington State University (WSU) when inspectors from EPA Region X and the Washington State Department of Ecology discovered various RCRA violations on-campus. In 1993, the EPA and WSU entered into a consent agreement to correct the violations. WSU agreed to implement hazardous waste recycling programs on the campus in exchange for a reduced penalty. The university also started an on-campus program to reuse chemicals that previously required transportation off-campus.

WSU developed an on-campus waste exchange plan to allow instructors, researchers, and students from one department to use and

153 40 C.F.R. § 260.10.
154 Id. § 270.1(c); see also 52 Fed. Reg. 45,788 (1987).
155 40 C.F.R. § 264.16.
156 Id. § 264.11.
157 ENFORCEMENT 1992, supra note 147, at 3-34.
158 Id.
160 Id. at 3-29.
161 Id. at 3-30.
reuse materials in other departments. Under the requirements for recyclable materials and the definition of solid waste, WSU could benefit from the reduced requirement for hazardous wastes going for recycling. In addition to the reduced fine of $22,500, the waste exchange system was expected to cost WSU about $87,500 to implement. However, because the system would allow WSU to reuse chemicals previously sent off-campus for disposal, WSU was expected to save some money that the university formerly spent on both chemical purchasing and expensive transportation and disposal of hazardous waste.

4. Duke University

During some routine inspections of Duke University (Duke), EPA Region IV discovered RCRA violations. As an LQG, Duke was allowed to accumulate hazardous waste on-site for up to ninety days without requiring a permit from the EPA to store hazardous waste. The inspections discovered that Duke had been storing mercury and dioxin hazardous wastes longer than the ninety-day limitation. According to the RCRA regulations, any “generator who accumulates hazardous waste for more than ninety days is an operator of a storage facility and is subject to the requirements of 40 CFR parts 264 and 265 and the permit requirements of 40 CFR part 270.” Because Duke had not obtained the appropriate storage permit or satisfied the storage facility requirements as specified in the regulations, the EPA initiated this enforcement action. Duke entered a consent decree with the EPA in 1994. Duke agreed to close the unpermitted storage unit in accordance with the storage facility closure requirements. Duke also agreed to spend $15,000 on an external audit of all of its environmental protection programs. This included an inventory and risk analysis of any off-campus treatment, storage, or disposal facilities that Duke employed in

162 Id.
163 40 C.F.R. § 261.6 (1996).
164 Id. § 261.2.
165 ENFORCEMENT 1993, supra note 159, at 3-30.
167 40 C.F.R. § 262.34(a); see also 51 Fed. Reg. 10,146, 10,168 (1986).
169 40 C.F.R. § 262.34(b).
171 Id.; see also 40 C.F.R. § 265.178.
the management of its hazardous waste. In addition, Duke paid a fine of $10,000.172

5. Yale University

The EPA started this enforcement action against Yale University (Yale) when Region I inspectors discovered alleged RCRA violations. On September 19, 1995, the EPA and Yale signed an administrative consent agreement and order regarding Yale's alleged noncompliance with RCRA hazardous waste management and emergency planning requirements.173 The agreement stated that Yale would pay a cash penalty of $69,570 and undertake supplemental environmental projects (SEPs)174 costing $279,205.175

The first SEP included the testing of undergraduate organic chemistry laboratories in an effort to reduce pollution. The second SEP involved the implementation of a waste management training program to encourage environmental compliance. The last SEP required Yale to renovate a building to be used as a lead poison resource center to promote public health in the surrounding community.176

6. The United States Coast Guard Academy

On September 21, 1995, the EPA and the United States Coast Guard Academy (Academy) entered into an administrative consent order. The agreement settled the Academy's alleged failure to comply with various RCRA waste management and employee training requirements.177 EPA Region I officials discovered the alleged violations after a routine inspection of the Academy.178

The Academy agreed to comply with the RCRA regulation and allocate funds to supplemental environmental projects. Under the terms of one project, the Academy must remove two underground

174 The EPA uses SEPs when negotiating with alleged RCRA violators. Often, the alleged violator will agree to conduct SEPs in an effort to reduce or eliminate fines imposed by the EPA. The nature of the negotiated SEPs do not necessarily relate to the RCRA violation. The EPA believes that SEPs create benefits for human health and the environment that outweigh the benefits of having alleged RCRA violators pay fines. Id. at 3-13.
175 Id. at A-3.
176 Id.
177 Id.
178 Id.
fuel storage tanks and one above ground storage tank and replace them with one above ground tank, at a central filling station.\textsuperscript{179} Another project required the Academy to build a concrete container storage area to replace the existing storage facility.\textsuperscript{180} The total project expenditures are expected to cost the Academy over $259,000.\textsuperscript{181}

B. Citizen Suits Under RCRA

Under RCRA, the federal courts offer inconsistent interpretations of the citizen suit provisions. In \textit{Martin v. Kansas Board of Regents},\textsuperscript{182} the U.S. District Court for the District of Kansas broadly construed the citizen suit notice requirements to allow the Martin family to sue the University of Kansas for RCRA violations. However, in \textit{United States v. Conservation Chemical Company},\textsuperscript{183} the U.S. District Court for the Western District of Missouri prevented both the University of Missouri and the University of Kansas from becoming third-party defendants to citizen suits under RCRA because of their sovereign immunity.

1. \textit{Martin v. Kansas Board of Regents}

In \textit{Martin}, the plaintiffs, the Martin family, owned a parcel of land adjacent to the University of Kansas (Kansas) and the Kansas University Medical Center. In 1964, Kansas obtained permits to dispose of low-level radioactive waste generated by the University Reactor Center at a landfill on campus. The Martins brought their suit against Kansas under the Clean Water Act, the Comprehensive Environmental Response, Compensation, and Liability Act,\textsuperscript{184} and RCRA, alleging that scientific reports conducted at the site revealed that radionuclides and hazardous waste had migrated from the site and contaminated surrounding soil and groundwater. The Martins claimed that they obtained water for drinking, bathing, washing, and gardening from the groundwater near the on-campus landfill. The Martins presented water samples taken from their well that had levels of chemicals far above the acceptable levels in the state of Kansas, called Kansas Actionable Levels (KAL). According to the Martins, Kansas had disregarded the threat of physical harm to the people living around the campus by disposing of hazardous waste in violation of RCRA. The

\begin{itemize}
  \item \textsuperscript{179} Id.
  \item \textsuperscript{180} Id.
  \item \textsuperscript{181} Id.
  \item \textsuperscript{183} No. 82-0983-CV-W-5 (W.D. Mo. Jan. 29, 1985) (LEXIS, Genfed library, Dist file).
  \item \textsuperscript{184} 42 U.S.C. §§ 9601–9675 (1994).
\end{itemize}
Martins sought injunctive relief, response costs, attorneys fees, and expert consultation fees to correct the existing violations and prevent further violations of the three acts.

In response to these allegations, Kansas contended that the Martins failed to meet the proper RCRA notice requirements. Those requirements prevent citizens from commencing their lawsuit against a potential RCRA violator for at least sixty days after citizens notify the EPA, the alleged violator, and the state environmental enforcement agency of the intent to sue. Kansas claimed that RCRA created a jurisdictional prerequisite that precluded the court from hearing the case, since the Martins had waited only eighteen days, not sixty, to file the lawsuit after notification.

The court held that the Martins had met the notice requirements and allowed the Martins to amend their complaint and continue with the suit. The court recognized that RCRA "permits a party to commence an action against the alleged violator of the waste disposal regulations promulgated under [RCRA]." The court noted that while the citizen suit provisions of RCRA do not allow parties normally to commence an action until sixty days, "an action alleging violations of subtitle C of the Act . . . may be brought immediately after notification." Because the Martins had alleged violations of hazardous waste disposal criteria promulgated under Subtitle C of RCRA, the sixty-day notice requirement was not necessary under the citizen suit provisions of RCRA.

2. United States v. Conservation Chemical Company

In United States v. Conservation Chemical Company, Conservation Chemical alleged that the federal government and third-party defendants, the University of Kansas and the University of Missouri, had violated RCRA. Both universities claimed that the Eleventh Amendment protects a state from suit in federal court. In addition, each contended that its respective state constitution allowed public corpora-

185 42 U.S.C. § 6972(b).
186 Id.
188 Id. (citing 42 U.S.C. § 6972(b)(1)(A), (b)(2)(A) (1988)).
189 Id.
191 Id. at *2.
tions charged with the important governmental function of providing higher education to benefit from sovereign immunity.\textsuperscript{192}

The court agreed with the universities, finding that the Eleventh Amendment prevented federal court jurisdiction and that the respective states had intended for sovereign immunity to cover state-run institutions of higher education. Sovereign immunity protected both the University of Kansas and the University of Missouri from becoming third-party defendants in the lawsuit.\textsuperscript{193} The court maintained that the degree of state control over its state institutions played a significant role in deciding whether that state intended to protect that institution under sovereign immunity.\textsuperscript{194} Congress had not intended to abrogate the sovereign immunity of the states, according to the court, when enacting the citizen suit provisions of RCRA.\textsuperscript{195} The court noted that RCRA expressly limits suits by private parties to the extent that the Eleventh Amendment permits.\textsuperscript{196} As a result, the court dismissed the case brought under RCRA against the two universities.

VI. Conclusion

RCRA serves to control the production, transportation, treatment, and disposal of hazardous waste. Since World War II, the amount of hazardous waste in this country has increased significantly. Environmental disasters such as Love Canal in New York\textsuperscript{197} and Times Beach in Missouri\textsuperscript{198} demonstrate that industry tends to manage hazardous waste in a manner that severely damages human health and the environment. RCRA attempts to regulate the "cradle-to-grave" management of hazardous waste to prevent these disasters from repeating themselves at other sites around the country.

For colleges and universities, the RCRA universe may seem unwieldy. Of the four different types of hazardous waste handlers, colleges and universities most often will be considered generators. Often in the generator regulations, the EPA will make cross references to other parts of the CFR. These cross references usually pertain to either the personnel training and emergency procedures for LQGS or

\textsuperscript{192} Id. at *6 (citing Mo. Const. art. IX, § 9(a)-(b), Kan. Const. art. VI, § 2(b)).
\textsuperscript{193} Id. at *8.
\textsuperscript{194} Id. at *4 (citing Tuverson v. Florida Governor's Council on Indian Affairs, Inc., 734 F.2d 730, 732-34 (11th Cir. 1984)).
\textsuperscript{195} Id. at *8.
\textsuperscript{196} Id. (citing 42 U.S.C. § 6972 (1988)).
to the accumulation tank and container standards for LQGS and SQGs. In addition, generators should note the cross references to the notification requirements under the land disposal restrictions. Generators should become familiar with these cross references and comply with the regulations found there. Cross referencing is the most challenging aspect of the hazardous waste regulations.

The RCRA regulations extend far beyond the realm of the hazardous waste generator. Facilities that wish to treat or dispose of hazardous waste must apply for a permit from the EPA to conduct such activities. In addition, the EPA has special land disposal restrictions and recordkeeping requirements for all hazardous waste handlers. The EPA also regulates the use of underground storage tanks, which could affect operations as common as the corner gas station or a university transit system. In addition, institutions that operate transit systems on-campus and off-campus may find regulations applicable to their activities involving used oil. Finally, colleges and universities that fall into the federal universe of hazardous waste regulations may also face requirements from their state. The EPA allows individual states to oversee their own hazardous waste if the state regulations are as stringent as their federal counterparts. Colleges and universities should consult their state environmental agencies and regulations to obtain a complete picture of how to comply with RCRA.

Familiarity with the various RCRA regulations is essential to proper compliance with the RCRA statute. Often, the preambles of the Federal Register notices serve as an excellent resource when trying to understand the regulations. The EPA explains why it has promulgated regulations and gives insight as to how hazardous waste handlers may comply. The Federal Register notices will also include contacts at the EPA who can answer questions on the regulations published in the notice. Each section of the CFR also gives a list of the Federal Register notices that have affected that section.

College and university attorneys should have a basic knowledge of how the EPA defines hazardous and solid waste. This knowledge allows for more accurate hazardous waste determinations. In addition, certain exemptions will allow colleges and universities to conduct various types of laboratory work without the added burden of hazardous waste regulations. Generally, these exemptions ease the requirements

200 See id. pt. 270 (listing the permit requirements); see id. pts. 264–265 (listing the treatment, storage, and disposal facility requirements).
201 Id. pt. 268.
202 Id. pt. 280.
203 Id. pt. 279.
for residential areas that generate waste and for laboratories conducting studies on hazardous waste. In addition, the exemptions encourage institutions to reuse beneficially their hazardous waste.\textsuperscript{204} The EPA hopes regulatory incentives that encourage hazardous waste recycling will reduce the need to send wastes for treatment and disposal. Ultimately, this will reduce the potential for exposure to hazardous waste both on-campus and off-campus.

Many people become overwhelmed by the extensive regulations. In order to raise compliance, the EPA should simplify the regulations. The proposal to simplify the "on-site" definition is one attempt at reducing the morass that people must wade through to comply with the law. Often, RCRA violators are unaware of their illegal activity. But ignorance and confusion do not reduce liability. Until the EPA simplifies the program, the best weapon against liability is a firm understanding of RCRA.

\textit{Joseph F. Scavetta}\textsuperscript{*}

\textsuperscript{204} \textit{Id.} pt. 261.

* As an alumnus of the RCRA, Superfund, and EPCRA Hotline, I would like to thank the Hotline for inspiring this Note topic. In addition, my thanks to Professor John Robinson for his guidance and to Annie Malarkey, Paul McLaughlin, Dina Olmstead, Bob Muise, and Dan Hillman for their assistance in editing this Note.