SECTION 5

ENVIRONMENTAL LAW AS IT APPLIES TO CONSTRUCTION AND OPERATION OF TRANSPORTATION PROJECTS

The following discussion addresses three of the major environmental regulatory programs potentially applicable to the construction and operation of transportation projects and facilities. CERCLA and the NPDES stormwater discharge program have particular relevance to the construction of transportation projects, but also apply to ongoing operations. The RCRA waste management requirements are an important consideration in the operation and maintenance of transportation facilities.

A. CERCLA LIABILITY: CONSTRUCTION AND OPERATION OF FACILITIES*

Through construction projects, as well as in the operation of their facilities, transportation agencies may engage in activity that leads to liability for the remediation of hazardous wastes under CERCLA. This section explores the common factual situations leading to CERCLA liability for transportation agencies and discusses strategies that transportation agencies may employ to limit or avoid liability.

1. What Is an "Operator?"

Occasionally, during the construction phase of a project, previously unknown contamination is discovered at a site. Even at sites for which environmental assessments have been completed, more intensive contamination or a different type of contamination may be encountered during construction. As discussed in Section 5.A.2, a transportation agency may avoid CERCLA liability if it meets the requirements of the condemnation defense and handles these hazardous substances with due care.[1] If a transportation agency fails to handle hazardous substances with due care, either by failing to provide information to the contractor concerning the hazardous substances or by failing to stop a contractor from making a contaminated site worse, a transportation agency may be considered an "operator" under CERCLA.[2]

CERCLA imposes liability for operators of sites at which hazardous substances have been released.[3] Operator liability has generally been imposed by courts if the party had "authority to control the cause of the contamination at the time the hazardous substances were released into the environment."[4] In *United States v. Bestfoods*, the U.S. Supreme Court held that to be subject to liability as an operator, an entity "must manage, direct, or conduct operations specifically related to pollution, that is operations having to do with leakage or disposal of hazardous waste, or decisions about compliance with environmental regulations."[5] "Disposal" under CERCLA has been interpreted by courts to include disposal beyond a substance's initial introduction to the environment.[6] Subsequent dispersal, movement, or release of hazardous substances during excavations and fillings may also constitute a disposal.[7]

In *Kaiser Aluminum & Chemical Corp. v. Catellus Development Corp.*, the Court of Appeals for the Ninth Circuit held a contractor liable under CERCLA for making a contaminated site worse.[8] Hazardous substances had been initially released at the site in the 1940s.[9] However, the contractor's spreading of contaminated material to previously uncontaminated areas through excavation, filling, and grading also constituted a disposal because it was an "activity which produced the contamination."[10]

The broad interpretation of disposal applied in *Kaiser* to a contractor creates the possibility that a transportation agency would similarly be held liable where the agency had authority to control the disposal of hazardous substances at the site. Authority to control by a transportation agency may be founded on the agency's ability to investigate the site prior to construction, develop policy and guidelines for handling or removing the hazardous substances, and monitor and inspect the work of a contractor.

Construction contractors are often hesitant to perform work at a contaminated site as a result of *Kaiser* and its progeny.[11] Frequently such contractors request that a transportation agency enter into an agreement to hold the contractor harmless from any liability under CERCLA. States may prohibit agencies from entering into hold harmless or indemnification arrangements. Furthermore, such agreements must conform to any state law requirements that govern indemnification of construction contractors. Moreover, any agreement to indemnify or hold a contractor harmless should specifically exclude indemnification for

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* This section updates, as appropriate, and relies in substantial part upon DEBORAH L. CADE, TRANSPORTATION AGENCIES AS POTENTIALLY RESPONSIBLE PARTIES AT HAZARDOUS WASTE SITES (Nat'l Coop. Highway Research Program, Legal Research Digest No. 34, 1995).

[1] 42 U.S.C. §§ 9601(35)(A)(ii); 9607(b)(3).

[2] *See, e.g.,* Kaiser Aluminum & Chemical Corp. v. Catellus Dev. Corp., 976 F.2d 1338 (9th Cir. 1992).

[3] 42 U.S.C. § 9607(a).

[4] *Kaiser*, 976 F.2d at 1341.

[5] United States v. Bestfoods, 118 S. Ct. 1876, 524 U.S. 51 (1998), vacating United States v. Condova Chem. Co., 113 F.3d 572 (6th Cir. 1997) (*en banc*).

[6] *See, e.g.,* Lincoln Props. Ltd. v. Higgins, 823 F. Supp. 1528, 1536 (E.D. Cal. 1992).

[7] *Kaiser*, 976 F.2d at 1342. *See also* n.12.

[8] *Id*.

[9] *Id*. at 1340, n.1.

[10] *Id*. at 1342. *See also* Redwing Carriers, Inc. v. Saraland Apartments, 94 F.3d 1489, 1510 (11th Cir. 1996) ("disposal" includes the disposal of contaminated soil during the course of filling and grading a construction site), Anheuser-Busch Inc. v. Ford Motor Co., No. 93-526, 1997 U.S. Dist. LEXIS 3556 (W.D. Ky. Feb. 11, 1997) (altering the surface and subsurface condition of, and spreading or covering contamination over a site, constitutes disposal under CERCLA);

[11] *See, e.g.,* Ganton Techs., Inc. v. Quadion Corp., 834 F. Supp. 1018, 1022 (N.D. Ill. 1993) (court held contractors that exacerbated preexisting condition liable, and followed *Kaiser* in holding that "disposal" is not limited to the initial introduction of contaminants into a site).

the contractor's own negligent or willful acts. A transportation agency should also consider incorporating in its bid specifications provisions for dealing with both known and unknown hazardous substances that may be encountered on a construction project. Such measures can alleviate concerns that may otherwise result in contractors inflating their bids to account for contingencies involving unknown contamination on the construction site. Contracts with environmental and engineering consultants in connection with site development services also frequently include environmental hold harmless and indemnification provisions.

2. Responsibility for Cleanup

After contamination of a construction site is discovered, the transportation agency may, for both practical and regulatory reasons, need to remediate the site to complete its project. Remediation could require paying for the cost of removing contaminated substances from a site or treating or containing contaminated substances at the site. Both the type of contamination and applicable federal and state remediation requirements will guide how the contaminated substances are handled.[12]

A transportation agency should not assume that contaminated soil must always be either removed or treated. In most cases, contaminated materials may not be reused as fill at a site. However, in many jurisdictions, mildly contaminated materials may, under certain circumstances, remain as discovered.[13] Where the contaminated area will subsequently be paved so that direct human exposure is unlikely and where the contamination is unlikely to contribute to ground or surface water contamination, an environmental agency often will permit the contamination to remain on site.[14]

When a transportation agency is required to remediate a site to construct a transportation improvement, an environmental agency may require additional excavation beyond the limits of the originally planned area needed for transportation purposes. To the extent that more contaminated soil is exposed as a result of this expanded site work, further remediation may be required. The need to "chase" additional contamination outside the bounds of the planned transportation improvement to satisfy regulatory cleanup obligations may add significantly to the cost of a project and delay its completion. A transportation agency is best prepared to deal with both known and unexpected contamination when it has contemplated these issues in advance; addressed them as contingencies in the planning and budgeting process; and made early contact, and maintained good relations with, environmental regulators.

3. Operation of Maintenance Facilities

Many transportation agencies own maintenance facilities. Both current and historic operating practices at these maintenance facilities may expose the agency to CERCLA liability. Liability risks include contamination of the maintenance facility itself and contamination of groundwater affecting abutting and nearby properties, as well as the sale or disposal of supplies or equipment that subsequently contaminate a remote site.

Both the variety of substances stored at a maintenance facility and their breakdown products may be the source of a release of hazardous substances exposing an agency to liability under CERCLA or other environmental law. Substances of possible concern include: salt and other deicing chemicals, paint, solvents, batteries and transformers, fuel and vehicle maintenance fluids, street sweepings, and stockpiled construction materials of dubious origin. For example, starting batteries that are not being used for their intended purpose but are simply rusting and decaying may constitute a hazardous substance.[15] However, old tires stored at a maintenance facility may not be.[16]

Where a transportation agency sells or disposes of its supplies or equipment, it is exposed to potential liability as an "arranger" for the disposal of hazardous substances.[17] Transportation agencies may not avoid liability for improper disposal simply by showing that the remote site is an approved hazardous waste disposal facility. But due diligence inquiry concerning the practices, reputation, and regulatory track record of the disposal facility is nonetheless both appropriate and advisable.

The operation of a transportation system and attendant operational facilities will involve a great potential for the accidental release of hazardous substances through a leak, spill, collision, or other incident. Transportation agencies should be well aware of notification obligations that attend to the discovery of a release of hazardous substances under CERCLA. A person "in charge" of a facility or vessel is required to give notice "immediately" of any release of a hazardous substance in excess of a reportable quantity determined by regulation.[18] Notification is typically by telephone[19] to

[12] *See, e.g.,* State of Connecticut Remediation Standard Regulations, § 22a-133k-1, *et seq*.

[13] *See, e.g.,* Variances to soil remediation standards permitted under the State of Connecticut Remediation Standard Regulations, § 22a-133k-2(f), allowing for "engineered control."

[14] *Id*.

[15] Gould, Inc. v. A&M Battery & Tire Serv., 933 F. Supp. 431, 436 (M.D. Pa. 1996) (arranger liability supported by sale of batteries for lead recovery rather than their intended purpose of starting vehicles).

[16] Town of New Windsor v. Tesa Truck, Inc., 935 F. Supp. 300, 305 (S.D.N.Y. 1996) (tires are not CERCLA hazardous substances).

[17] 42 U.S.C. § 9607(a)(3). See discussion at § 5.A.5.

[18] 42 U.S.C. § 9603(a); Regulations implementing the notification requirements, including the list of hazardous substances and their respective reportable quantities, are at 40 C.F.R. pt. 302 (July 1, 2001).

the National Response Center (NRC), which is staffed by the Coast Guard. The person reporting the spill or release should be prepared to identify themselves and the facility in question and to provide as much detail as possible about the release incident. Depending upon the substance released, notification may also or instead be required to the NRC or other agency under another provision of federal or state law.[20] For example, releases of petroleum products are encompassed by many state spill notification requirements, and in the case of releases to waters of the United States, by the Federal CWA's reporting requirement, but are generally not encompassed by CERCLA.[21]

To reduce liability risk under CERCLA, transportation agencies should implement appropriate hazardous materials inventory and handling practices at their maintenance facilities and ensure proper training of agency employees. Care should be taken when accepting stockpiles of earth materials and in disposing of surplus or obsolete supplies.

4. Outleasing of Facilities or Sites

A transportation agency may be exposed to CERCLA liability by leasing property it owns to a lessee who improperly disposes of hazardous substances. Transit stations and highway rest areas are among the facilities commonly leased to private parties. Conversely, a transportation agency may be exposed to liability when it acts as a lessee itself and leases a facility for its own use.

To protect itself, the transportation agency should require, in either case, that an environmental site assessment be completed prior to the commencement of the lease term. The environmental site assessment will establish the baseline condition of the site and may be used to predict what contamination problems could result from the lessee's intended use of the site. Whether the transportation agency is leasing the site from another party or is leasing out an owned site, defining the environmental condition of the site at the commencement of the lease term will help to protect the transportation agency from incurring liability for contamination it did not release.

Where the transportation agency owns the site, it may further protect itself by requiring that the lessee indemnify the agency for any costs associated with a release of hazardous substances at the site. The existence of an indemnification agreement is not a defense to government response actions brought under CERCLA.[22] However, an indemnification will provide the transportation agency the ability to recover remediation costs from a financially viable lessee.[23]

Where the transportation agency is a lessee, it should pay careful attention to the scope of the lease—particularly in locations with known or suspected contamination issues. Limiting both the geographic and the substantive scopes of the site lease to just those areas and rights that the agency needs for its intended use can be helpful in delimiting the agency's "authority to control" the site for purposes of determining its status as an "operator" or not. For example, the agency lessee may consider excluding from the leasehold interest a known or suspected environmental trouble spot if it is not strictly necessary for the agency's purposes. The agency may disclaim any rights to use or control the use of existing underground storage tanks or any rights below the surface of the site altogether.

5. Generator or Arranger Liability at Disposal and Treatment Facilities

Where a transportation agency sends waste for disposal to a landfill or other treatment or disposal facility, it is possible that the facility is or will some day be the subject of CERCLA litigation and that the agency will be identified as a PRP obliged to help pay for the facility's cleanup. To limit the potential for such liability, it is imperative that a transportation agency keep an accurate and complete record of its waste disposal as to quantity, substance, transporter, and ultimate disposal site. The agency should insist on receiving appropriate documentation (manifests or other form of receipt) documenting the chain of custody from agency facility to hauler to storage facility to the ultimate receipt of the waste for disposal at an authorized disposal facility.[24] Generally, the EPA names every entity that even a scintilla of evidence suggests may have disposed waste at a contaminated site. If the transportation agency cannot prove conclusively that either its waste was sent somewhere else or its waste was not hazardous, EPA is unlikely to dismiss the agency from the litigation.

In *B.F. Goodrich Co. v. Murtha*, the United States District Court for the District of Connecticut found that old tires and construction debris that were among the many materials at a landfill for which response costs were sought were not hazardous substances under CERCLA.[25] Such materials were not *per se* hazardous

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[19] The National Response Center number is currently 1-800-424-8802. Their website with online reporting capabilities is available at http://www.nrc.uscg.mil. 40 C.F.R. § 302.6.

[20] *See* SUSAN M. COOKE, THE LAW OF HAZARDOUS WASTE 2, § 8.01[3][f][iii]. Chapter 8 of the Cooke treatise addresses spill reporting generally in great detail. *See also* Joel Mintz, *Superfund Response Action Process*, at § 9.02, *in* STATE & LOCAL GOVERNMENT ENVIRONMENTAL LIABILITY (Clark Boardman Callaghan, 1997).

[21] *See, e.g.,* MASS. GEN. LAWS ch. 21E; 33 U.S.C. § 1321(b)(3); 42 U.S.C. § 9601(14).

[22] 42 U.S.C. § 9607(e)(1).

[23] *See, e.g.,* Hatco Corp. v. W.R. Grace & Co.-Conn., 59 F.3d 400 (3d Cir. 1995); Purolator Prods. Corp. v. Allied Signal, Inc., 772 F. Supp. 124, 129 (W.D.N.Y. 1991); Jones-Hamilton Co. v. Kop-Coat, Inc., 750 F. Supp. 1022 (N.D. Cal. 1990), *reversed in part,* 959 F.2d 126 (9th Cir. 1992).

[24] Accurate record keeping is also a legal requirement under federal and state waste management regulations. *See* 42 U.S.C. § 6924(a).

[25] B.F. Goodrich Co. v. Murtha, 840 F. Supp. 180 (D. Conn. 1993).

substances, and the claim that such materials might contain hazardous substances if broken down to their constituent parts was still insufficient to support a finding that hazardous substances had been disposed.[26]

6. Ferry Operations[27]

A ferry system may be exposed to liability for historical contamination in sediment, tidelands, or shoreline areas. For such liability, the transportation agency may argue the defense to CERCLA that it acquired the areas by the exercise of eminent domain. Such an argument is identical to the defense a transportation agency would raise where contaminated property has been discovered as part of a highway project. A ferry system may also be exposed to liability where there is discharge of hazardous substances from a vessel or ferry. Paint removal or other modifications to a ferry could result in the release of hazardous substances.

Certain ferry operations must periodically dredge tideland sediments. When the ferry operation performs this periodic dredging, it must consider whether the sediments contain hazardous substances from either the ferry operations or from historical uses of the site. The ferry operation should investigate the condition of the sediments. Moreover, because a Section 404 dredging permit is required,[28] the ferry operation should disclose any known contamination to the United States Army Corps of Engineers in its application for a dredging permit. It has been suggested that this may be a way to preserve a defense under Section 107(j) of CERCLA by arguing that the removal and disposal of the sediments was a federally-permitted release.[29]

7. Contamination by Abutting Landowners

Highway projects often abut sites, such as manufacturing companies and gas stations, that may be the source of hazardous substances. The hazardous substances may migrate to the transportation agency's project or the transportation agency's right-of-way. Because a transportation agency has no control over the activity of the abutting owner, it may be entitled to invoke the third party defense to CERCLA liability.[30]

However, a defense to liability will not resolve the contamination problem. Whether the transportation agency needs to remediate the contamination on its site will likely depend upon the level and extent of contamination and whether the state environmental agency requires response actions. If response actions are required, the agency may need to initiate litigation against the offending abutter or use its own funds to remediate the contamination.

8. Defenses to CERCLA

For a discussion of the defenses to CERCLA liability and their applicability to transportation agencies, see Section 5.B.3.

B. CWA IN CONSTRUCTION AND OPERATION

Roads, highways, and bridges, among other transportation facilities, are a significant source of pollutants that make their way to water bodies, waterways, and associated wetlands. Melting snow and rain water pick up dirt and dust from road and highway construction and maintenance. Particles of worn tires, vehicle fluids, road salt, pesticides and fertilizers, litter, and other debris are among the substances of concern that wash from roads into the water.[31] The following discussion focuses in particular on permits for stormwater discharge from construction projects, which require permitting under the NPDES program. Stormwater permitting requirements are also discussed in Section 4.B.2.

1. Stormwater Runoff and NPDES

a. Permits for Stormwater Discharge Associated with Construction Activity

Section 402(p) of the CWA, adopted in 1987 and amended in 1992, imposed a moratorium until 1994 on requiring NPDES permits for point source discharges composed entirely of stormwater, with certain exceptions. One exception to the moratorium covered discharge associated with industrial activity.[32] As part of its "Phase I" regulation of industrial stormwater discharge, EPA defined "stormwater discharge associated with industrial activity" to encompass construction activities disturbing 5 acres or more.[33]

In 1992, EPA issued a general permit for discharges of stormwater from such construction activities to reduce the administrative burden of issuing individual NPDES permits to thousands of subject projects. A general permit can be exercised by anyone who qualifies under the terms of the permit and complies with its procedural and substantive conditions. This allows a broad category of actors and activities with similar basic characteristics to be permitted generically, thereby streamlining the permitting process and avoiding the need for agency review of individual permit applications. The original 1992 general permit expired in September 1997. A general permit for all EPA regions except Regions 4, 5, and 6 was reissued

[26] *Id*. at 188.

[27] This discussion is taken from DEBORAH L. CADE, TRANSPORTATION AGENCIES AS POTENTIALLY RESPONSIBLE PARTIES AT HAZARDOUS WASTE SITES 10–11 (Nat'l Coop. Highway Research Program, Legal Research Digest No. 34, 1995).

[28] 33 U.S.C. § 1344. *See* discussion in § 3A *supra*.

[29] 42 U.S.C. § 9607(j); CADE, *supra* note 27, at 11.

[30] 42 U.S.C. § 9607(b)(3).

[31] U.S. ENVTL. PROTECTION AGENCY, OFFICE OF WATER, CONTROLLING NONPOINT SOURCE RUNOFF POLLUTION FROM ROADS, HIGHWAYS AND BRIDGES (EPA-841-F-95-008a, 1995), available at http://www.epa.gov/OWOW/NPS/roads.html.

[32] 33 U.S.C. § 1342(p).

[33] 40 C.F.R. § 122.26(b)(14)(x).

and took effect on February 17, 1998.[34] Regions 4 and 6 reissued their general permits a short time later; in Region 5, the individual states are each delegated and have issued their own stormwater general permits.[35] The new general permits authorize stormwater discharges from existing, as well as new, construction sites.

To receive a new stormwater permit (whether individual or general), the person or entity subject to the permit requirement should first notify the EPA regional office of its intent to obtain a permit. In addition, if there is an applicable state program, similar notice should be given to the appropriate state agency. EPA and the state agency should provide the necessary permit application form and instructions for any additional required information. Such information may include a topographical site map showing key stormwater features, a history of activities, any accidental releases, and estimates of potential pollutants as well as information needed to determine compliance with the NHPA, ESA, and other statutory requirements.

Under the schedule established by EPA regulations, an individual permit application should be submitted 180 days prior to the start of a new industrial activity or before a new discharge is proposed to begin; or in the case of construction activities that will disturb more than 5 acres, 90 days prior to the start of construction.[36] To renew an existing permit, a new permit application must be completed and submitted no less than 180 days prior to the expiration date of the current permit.[37] If the application deadline is missed, the regional EPA administrator must approve a late submission; however, the submission date cannot exceed the date the current permit expires. If a new permit is not received before the existing permit expires, the existing permit remains in effect until the new permit is received, as long as the application for the new permit was submitted prior to the deadline or late submission approval was received.[38]

To obtain authorization to discharge under the general permit for construction activities disturbing 5 acres or more, an operator must develop an SWPPP or participate in a joint plan with others, in accordance with the requirements of the construction general permit. In addition, a completed Notice of Intent (NOI) form must be submitted to EPA or state environmental authorities (if delegated to implement the NPDES stormwater program). Stormwater discharges are authorized 2 days after the postmark date of the NOI, unless EPA notifies the party otherwise.[39]

EPA's Phase II stormwater regulation expands the NPDES stormwater permitting program to cover discharge associated with "small construction activity," defined as including sites from 1 to 5 acres in size. These Phase II stormwater permit requirements were the result of litigation by environmental groups, which found EPA's exclusion of construction projects affecting fewer than 5 acres from the Phase I permit requirements to be arbitrary and capricious.[40] Construction sites may be excluded from the Phase II permit requirement based on a lack of potential impact from rainfall erosion, or where controls are not needed to preserve water quality. Conversely, construction sites smaller than 1 acre may be regulated based on a potential for contribution to a violation of water quality standards or potential for significant contribution of pollutants.[41] EPA publishes guidance on best management practices for controlling runoff pollution from roads and highways, including highway construction sites.[42] In addition, FHWA has adopted the AASHTO guidelines for controlling erosion and sediment runoff during highway construction.[43]

Discharges from construction sites associated with small construction activity require authorization by March 10, 2003.[44] The Phase II regulation also extends until March 10, 2003, the time for seeking a permit for stormwater discharge associated with industrial activity from a facility, other than an airport, owned or operated by a municipality having a population of less than 100,000.[45] This is the same date as the deadline for applying for a permit for discharge from a municipal separate storm sewer system in a jurisdiction having fewer than 100,000 people. Discharge through a municipal separate storm sewer collection system serving a population of more than 100,000 required

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[34] 63 Fed. Reg. 7858 (Feb.y 17, 1998).

[35] 63 Fed. Reg. 7858. The general permit for Region 4 (Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, and Mississippi) was reissued on March 31, 1998 (63 Fed. Reg. 15622, Apr. 3, 1998) and revised 2 years later (65 Fed. Reg. 25122, Apr. 28, 2000). The general permit for Region 6 (Louisiana, Arkansas, Oklahoma, Texas, and New Mexico) was reissued on June 24, 1998, effective July 6, 1998 (63 Fed. Reg. 36490, July 6, 1998). In Region 5 (Ohio, Indiana, Michigan, Illinois, and Wisconsin), the individual state environmental agencies rather than EPA handle general stormwater permits.

[36] THE OFFICE OF COMPLIANCE FACT SHEET SERIES: APPLYING FOR A STORMWATER PERMIT UNDER THE PHASE I PROGRAM, Doc. No. 1151 (1998) (available at http://www.transource.org/water.htm).

[37] 40 C.F.R. § 122.26(e)(6).

[38] TRANSPORTATION ENVIRONMENTAL RESOURCE CENTER, THE OFFICE OF COMPLIANCE FACT SHEET SERIES: PHASE I NPDES PERMIT RENEWALS, Doc. No. 1150 (1998) (available at http://www.transource.org/shared_files/renewal.htm).

[39] 63 Fed. Reg. 7858 (Feb. 7, 1998).

[40] Natural Res. Defense Council, Inc. v. EPA, 966 F.2d 1292, 1306 (9th Cir. 1992).

[41] 40 C.F.R. § 122.26(b)(15); § 122.26(c).

[42] U.S. ENVTL. PROTECTION AGENCY, OFFICE OF WATER, EROSION, SEDIMENT, AND RUNOFF CONTROL FOR ROADS AND HIGHWAYS (EPA-841-F-95-008d, 1995). Available at http://www.epa.gov/nps/education/runoff.html.

[43] 23 C.F.R. § 650.211.

[44] 40 C.F.R. § 122.26(e)(8).

[45] 40 C.F.R. § 122.26(e)(1)(ii).

NPDES permitting under the Phase I rules. EPA has indicated its intent to use general permits for all discharges newly regulated under Phase II to reduce the administrative burden associated with permitting, although individual permits may be used in specific circumstances.[46]

b. Water Quality Standards

The NPDES permitting system generally limits discharges through technology-based controls and effluent limits that restrict the amount of pollution that a source may discharge into receiving waters, based on the technological capabilities of the source.[47] However, water quality controls based on state-adopted water quality standards may also be imposed as a condition of an NPDES permit.[48] The Water Quality Act of 1987 placed a greater emphasis on attaining state water quality standards and ensuring the maintenance of water quality sufficient to support existing uses of water.[49]

Section 303 of the CWA requires states to develop water quality standards that are subject to approval by the EPA.[50] Under EPA regulations implementing this authority, state water quality standards must include: (1) "use designations" for waters protected by the Act,[51] (2) "water quality criteria sufficient to protect these designated uses,"[52] and (3) an "antidegradation policy."[53] Use designations are defined by states to ensure that designated uses are at least as protective of water quality as existing uses and that uses that could lead to discharges of unacceptable levels or types of pollutant discharges are not allowed.[54] Water quality criteria are defined by states based on designated uses such as drinking, swimming, and the protection of fish and wildlife; are required to "represent a quality of water that supports a particular use"; and may be "expressed as constituent concentrations, levels or narrative statements."[55] Finally, a state antidegradation policy must meet requirements for protection of both existing uses and "high quality waters constitut[ing] an outstanding national resource" such as those with exceptional recreational or ecological significance.[56] The antidegradation policy must also protect other waters having quality in excess of that needed to protect existing uses unless there is a finding that lower quality can continue to fully support existing uses and is justified to accommodate important social or economic development.[57]

Compliance with water quality standards is reviewed primarily as a part of the Section 401 Water Quality Certification process. A Section 401 Water Quality Certification is required in connection with all NPDES permits. Many transportation projects may be eligible for NPDES permitting under a general permit for discharges of stormwater from construction activities that does not impose project-specific water quality controls.[58] Even if an individual permit is required, permitting authorities most often consider technology-based standards and effluent limits and less frequently impose water quality limitations as a permit condition.[59] However, if necessary to achieve compliance with applicable water quality standards, NPDES permits must contain water quality-based limitations even more stringent than those of technology-based standards.[60] The many variable factors that must be considered in evaluating the effect of a discharge to receiving waters, such as flow volumes and pollutant levels, complicate the analysis of whether water quality standards are likely to be exceeded. Thus, while state water quality standards are an important part of the CWA regulatory scheme, state standards may not always be specifically addressed through NPDES permit conditions.

C. LIABILITY UNDER RCRA

RCRA regulates the active generation, storage, transport, treatment, and disposal of both solid and hazardous waste materials.[61] RCRA, with its voluminous regulations promulgated by the US EPA, creates a complex and immensely detailed regime for "cradle to grave" waste management. The standards for solid and hazardous waste management created by RCRA and its implementing regulations have significant implications for transportation agencies, which generate, store, transport, treat, and dispose of solid and hazardous wastes. RCRA should be distinguished from CERCLA and state analogue "superfund" programs that focus on the identification and remediation of accidental or unauthorized releases of hazardous substances, as discussed above in subsection 6.A.

Violations of RCRA and its implementing regulations by a transportation agency may result in federal, state, or citizen enforcement actions that give rise to significant penalties. In addition, RCRA violations frequently generate adverse publicity that may embarrass the transportation agency. This section

[46] 64 Fed. Reg. 68737 (Dec. 8, 1999).

[47] 33 U.S.C. § 1313; *see* PUD No. 1 of Jefferson County v. Wash. Dep't of Ecology 511 U.S. 700, 704 (1994).

[48] 33 U.S.C. § 1311(b)(1)(c).

[49] 40 C.F.R. § 131.12; *see* Westvaco Corp. v. United States EPA, 899 F.2d 1383, 1385 (4th Cir. 1990).

[50] 40 C.F.R. § 131.6.

[51] 40 C.F.R. § 131.6(a).

[52] 40 C.F.R. § 131.6(c).

[53] 40 C.F.R. § 131.6(d).

[54] 40 C.F.R. § 131.10.

[55] 40 C.F.R. § 131.3(b).

[56] 40 C.F.R. § 131.12(a)(3).

[57] 40 C.F.R. § 131.12(a)(2).

[58] *See* § 3.B.

[59] *See* Natural Res. Defense Council v. EPA, 915 F.2d 1314, 1317 (9th Cir. 1990).

[60] 65 Fed. Reg. 43586, 43588 (July 13, 2000).

[61] Pub. L. No. 94-580 (Oct. 21, 1976), 90 Stat. 2796, codified as 42 U.S.C. § 6901 *et seq*.

contains an overview of the RCRA regulatory scheme to provide transportation agencies with the knowledge and tools to avoid the pitfalls and liabilities of RCRA.

1. Goals, Policies, and Objectives of RCRA

RCRA was first passed as a federal regulatory statute in 1976 and was formally named the Solid Waste Disposal Act.[62] RCRA was comprehensively amended in 1984. The statute addresses the national concern about the health impacts of hazardous waste and the misuse of land resulting from discarding solid wastes and hazardous wastes.

Congress sets forth a series of legislative findings in the initial sections of RCRA.[63] These findings state that there is "a rising tide of scrap, discarded and waste materials,"[64] and that "serious financial, management, intergovernmental and technical problems" have arisen regarding the disposal of such waste materials.[65] Moreover, the increase in solid wastes has caused the needless pollution of land from open dumps and sanitary landfills,[66] which also causes contamination of drinking water and the air.[67] Congress also found that hazardous wastes are a particular threat to human health and the environment,[68] and that where hazardous waste management is improperly performed in the first instance, corrective action is likely to be expensive, complex, and time consuming.[69]

Congress listed 11 specific objectives of RCRA based on its legislative findings.[70] For solid wastes, RCRA is intended to provide technical and financial assistance to state and local governments and administrative agencies for the development and implementation of solid waste management plans.[71] For solid wastes that are also hazardous wastes, RCRA's objective is to assure that hazardous waste management practices are conducted in a manner that protects human health and the environment.[72] RCRA calls for establishing a viable federal-state partnership to carry out its purposes, and a state may be delegated the responsibility for implementing some or all of the RCRA regulatory scheme within its borders.[73]

2. Waste Materials Subject to Regulation

A transportation agency must consider what type of wastes it generates and comes into possession of and whether those wastes are subject to RCRA. Wastes are segregated under RCRA's regulatory scheme into "hazardous wastes" or nonhazardous "solid wastes." RCRA and its implementing regulations provide criteria to distinguish these two types of wastes.[74]

a. Statutory Definitions of Solid Waste and Hazardous Waste

"Solid waste" is broadly defined under RCRA to include: "[A]ny garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial mining and agricultural activities, and from community activities…."[75]

Solid wastes are regulated under the portion of RCRA known as subtitle D. Note that "solid wastes" regulated under RCRA need not in fact be in a solid state, but may include wastes in liquid, semi-solid, and gaseous states.

"Hazardous waste" is defined as a specific subset of solid waste. A "hazardous waste" is defined to include:

> [A] solid waste, or combination of solid wastes, which because of its quality, concentration, or physical, chemical or infectious characteristics may—(A) cause, or significantly contribute to an increase in mortality, or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.[76]

Hazardous wastes are regulated under subtitle C of RCRA.

b. EPA Definitions of Wastes

In the regulations implementing RCRA, the definition of "solid waste" is further refined through definition of the term "discarded material." A "discarded material," as that term is used in the definition of solid waste, is defined as "any material that is abandoned in the sense of being disposed of, burned, incinerated, or stored, accumulated or treated before, or in lieu of, burning or incineration, recycled, or considered inherently waste-like."[77] A solid waste is any discarded waste that is not explicitly excluded from the solid waste category in RCRA's regulations.[78]

The definition of "hazardous waste" is further refined in RCRA's implementing regulations to include characteristic hazardous wastes and listed hazardous wastes. Characteristic hazardous wastes are wastes that are considered hazardous because they exhibit any of the "characteristics of hazardous waste."[79] These characteristics include ignitability,[80] corrosivity,[81]

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[62] Pub. L. No. 89-272, tit. II, See note following 42 U.S.C.A. 690 (West 1995).

[63] *See* 42 U.S.C. §§ 6901, 6902.

[64] 42 U.S.C. § 6901(a)(2).

[65] 42 U.S.C. § 6901(a)(3).

[66] 42 U.S.C. § 6901(b)(1).

[67] 42 U.S.C. § 6901(b)(4).

[68] 42 U.S.C. § 6901(b)(5).

[69] 42 U.S.C. § 6901(b)(6).

[70] 42 U.S.C. § 6902(a).

[71] 42 U.S.C. § 6902(a)(1).

[72] 42 U.S.C. § 6902(a)(4).

[73] 42 U.S.C. § 6902(a)(7).

[74] *See generally* 42 U.S.C. §§ 6903(5), (27), and 40 C.F.R. pt. 261.

[75] 42 U.S.C. § 6903(27).

[76] 42 U.S.C. § 6903(5) (July 1, 2001).

[77] 40 C.F.R. § 261.2.

[78] 40 C.F.R. § 261.2(a)(1).

[79] 40 C.F.R. § 261.2(a)(2)(iii)(d).

[80] 40 C.F.R. § 261.21.

reactivity,[82] and toxicity.[83] Listed wastes are those listed in specific published lists of the EPA as being hazardous.[84]

A transportation agency should survey its facilities and operations to determine what types of waste the agency generates, stores, treats, handles, transports, or disposes of. As to each waste identified, the agency should consider whether it is excluded from regulation, a solid waste, a listed hazardous waste, or a characteristic hazardous waste. Where the waste is not expressly listed, it will be necessary to test the waste to determine whether it fits the characteristic hazardous waste criteria. Among the wastes that transportation agencies should consider and evaluate in this regard are vehicle maintenance wastes, including fluids and parts such as brake linings and tires; infrastructure maintenance wastes such as paints and sealants, street sweepings, silt from drainage systems on rights-of-way and at vehicle maintenance and storage facilities; contaminated soil, dredged materials, and dewatering fluids encountered during construction of a highway or other transportation facility; and all other substances that an agency may be responsible for generating, storing, and disposing of. Because of the cost and complication involved in handling hazardous waste in compliance with RCRA, transportation agencies should consider strategies for minimizing waste generally and minimizing hazardous waste particularly through thoughtful procurement, inventory, and operational practices.

The following discussion provides an overview, in outline form, of the major aspects of the RCRA regulations likely to be of interest to transportation agencies.

i. Types of Waste Excluded from Definitions.—Certain types of wastes are specifically excluded from the "hazardous waste" definitions. Excluded wastes that may be generated in connection with the operations of transportation agencies include:

- Household waste.[85]
- Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment.[86]
- Certain petroleum-contaminated media and debris.[87]
- Arsenically treated wood.[88]
- Certain used oil filters.[89]
- Used oil distillation bottoms used to manufacture asphalt products.[90]

Although such wastes are not regulated as hazardous under RCRA, they should still be safely and properly disposed of.

ii. Mixture Rule.—In its implementing regulations, the EPA defines a mixture of a listed hazardous waste and a nonhazardous solid waste as a hazardous waste.[91] This definition was intended to prevent the use of waste dilution to evade hazardous waste management requirements, and originally covered all mixtures of solid waste with any quantity of hazardous waste.[92] This rule was successfully challenged in 1991 on procedural grounds.[93] Subsequently EPA reissued the rule and promulgated a series of proposals for further revision. A final rule adopted in 2001 revised the mixture rule so that certain mixtures containing solid wastes and one or more characteristic hazardous wastes would not be considered hazardous waste after they no longer exhibit a hazardous waste characteristic. The excluded mixtures are those that contain wastes that are listed as hazardous only because they fail a characteristic of ignitability, corrosivity, or reactivity. Mixtures containing wastes that are regulated because of their toxicity do not qualify for the exemption.[94] One aspect of the mixture rule that may be particularly pertinent to a transportation agency is the "contained in" policy by which soil and other environmental media that exhibit hazardous waste characteristics or contain a listed hazardous waste must be managed as hazardous waste.[95]

3. Generators—Standards Applicable to Hazardous Waste Generators

A transportation agency that owns or operates a facility that generates hazardous waste will be subject to the hazardous waste generator regulations promulgated under RCRA.[96] This section contains a summary of regulations applicable to generators that are most relevant to transportation agencies. The implementation of an environmental management system and periodic regulatory "self-audits" are techniques used by industry that may be helpful to a transportation agency for maintaining compliance with generator waste management and recordkeeping requirements.

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[81] 40 C.F.R. § 261.22.

[82] 40 C.F.R. § 261.23.

[83] 40 C.F.R. § 261.24.

[84] 40 C.F.R. § 261, subpt. D.

[85] 40 C.F.R. § 261.4(b)(1). Household waste includes garbage, trash, and sanitary wastes in septic tanks derived from single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas. 40 C.F.R. § 261.4(b)(1).

[86] 40 C.F.R. § 261.4(b)(12).

[87] 40 C.F.R. § 261.4(b)(10).

[88] 40 C.F.R. § 261.4(b)(9).

[89] 40 C.F.R. § 261.4(b)(13).

[90] 40 C.F.R. § 261.4(b)(14).

[91] 40 C.F.R. § 261.3(a)(2)(iv).

[92] *See* 66 Fed. Reg. 27271, May 16, 2001 (Without the mixture rule, generators could potentially alter waste so that it no longer meets the listing description without detoxifying, immobilizing, or otherwise effectively treating waste).

[93] Shell Oil Co. v. EPA, 950 F.2d 741 (D.C. Cir. 1991).

[94] 40 C.F.R. § 261.3(g)(2); 66 Fed. Reg. 27266 (May 16, 2001). See note following § 261.3 (July 1, 2001).

[95] *See* discussion at 66 Fed. Reg. 27286 (May 16, 2001).

[96] *See generally* 40 C.F.R. pt. 262.

a. Definition of Generator

"Generator" is not defined in RCRA itself. However, RCRA's regulations state that a "generator" is "any person, by site, whose acts or process produces hazardous waste…whose act first causes a hazardous waste to become subject to regulation."[97]

b. Hazardous Waste Determination

The generator of a waste must determine whether the waste is hazardous. As discussed above, the generator should consider whether the waste is excluded from RCRA regulation, a solid waste, a listed hazardous waste, or a characteristic hazardous waste. When a waste is not explicitly listed as hazardous, it will be necessary to test the waste, in accordance with an approved EPA method, to determine whether it fits the characteristic hazardous waste criteria.[98]

c. EPA Identification Numbers

Generators of hazardous waste must apply for and receive an EPA identification number.[99] Applications must be made on the appropriate EPA form.

d. Pre-Transport Requirements

Prior to causing hazardous waste to be transported from a facility, a hazardous waste generator must comply with certain pre-transportation requirements under the RCRA regulations and the USDOT requirements.[100] These pre-transportation requirements include packaging,[101] labeling,[102] marking,[103] and placarding.[104]

A generator may store hazardous waste on site for 90 days or less without triggering the requirements that apply to permanent treatment storage and disposal facilities (TSDFs).[105] However to avoid the requirements applicable to TSDFs, the generator must:

1. Place waste in containers, tanks, and/or drip pads;[106]
2. Clearly mark the date on which the period of accumulation commenced (visible for inspection) on each container;[107]
3. Label each container, tank, and/or drip pad as "Hazardous Waste;"[108]
4. Observe standards applicable to TSDFs that involve "preparedness and prevention" and "contingency planning and emergency procedures."[109]

e. Manifest Requirements

Any generator that offers hazardous wastes for transportation must prepare a document known as a manifest on the standardized form available from the EPA.[110] The manifest requires a description of the amount and type of hazardous waste to be transported.[111] The generator must sign the manifest[112] and must designate the facility that will handle the hazardous waste in question.[113] The generator must also designate one alternative facility that will handle the waste in the event that the originally designated facility cannot handle the waste.[114] Copies of the manifest are provided to each transporter of the waste and the TSDF that accepts the waste.[115] Upon receipt of the waste, the TSDF is required to send one copy of the signed and completed manifest back to the generator.[116]

f. Recordkeeping and Reporting

With respect to recordkeeping, a hazardous waste generator must retain a copy of each manifest for 3 years after the date it receives the signed and completed manifest from the TSDF that ultimately accepted the waste.[117]

With respect to reporting, there are two types of reports a generator may have to generate. If the generator never receives a signed manifest from the TSDF that was supposed to accept the waste, it must file an exception report with the EPA regional office.[118] The exception report is due 45 days after the date the waste was accepted by the initial transporter. Prior to filing the report, and within 35 days of the date the waste was accepted by the initial transporter, the generator must attempt to contact the TSDF to learn what happened to the waste.[119]

In addition to the exception report, a hazardous waste generator must file a biennial report with its EPA regional office.[120] Among other criteria, the biennial report must include hazardous waste output per year and procedures or practices the generator has implemented to reduce the volume and toxicity of its wastes.[121]

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[97] 40 C.F.R. § 260.10.

[98] The testing procedures that EPA has mandated appear in appendices to 40 C.F.R. pt. 261.

[99] 40 C.F.R. § 262.12(a).

[100] *See generally* 40 C.F.R. § 262.30 *et seq*. and 49 C.F.R. pt. 172 *et seq*.

[101] 40 C.F.R. § 262.30 and 49 C.F.R. pts. 173, 178, 179.

[102] 40 C.F.R. § 262.31 and 49 C.F.R. pt. 172.

[103] 40 C.F.R. § 262.32 and 49 C.F.R. pt. 172.

[104] 40 C.F.R. § 262.33 and 49 C.F.R. pt. 172, subpt. F.

[105] 40 C.F.R. § 262.34(b).

[106] 40 C.F.R. § 262.34(a)(1) and 40 C.F.R. pt. 265, subpts. I, J, and W.

[107] 40 C.F.R. § 262.34(a)(2).

[108] 40 C.F.R. § 262.34(a)(3).

[109] 40 C.F.R. § 262.34(a)(4) and 40 C.F.R. pt. 265, subpts. C and D.

[110] *See generally* 40 C.F.R. pt. 262, subpt. B.

[111] *See* EPA Form 8700-12.

[112] 40 C.F.R. § 262.22.

[113] 40 C.F.R. § 262.20(b).

[114] 40 C.F.R. § 262.20(c).

[115] 40 C.F.R. § 262.23.

[116] *Id*.

[117] 40 C.F.R. § 262.40(a).

[118] 40 C.F.R. § 262.42.

[119] *Id*.

[120] 40 C.F.R. § 262.41.

[121] *Id*.

g. Small Quantity Generators

If a transportation agency generates hazardous waste, it should consider whether it qualifies for small quantity generator status. In RCRA's implementing regulations, the EPA has established two classes of small quantity generators: (1) those that generate between 100 and 1,000 kg of hazardous wastes per month and (2) those that produce less than 100 kg of hazardous waste per month.[122] However, if the transportation agency generates waste classified as "acutely hazardous" waste, it will probably not be entitled to small quantity generator status.[123]

Small quantity generators of the first class are subject to only some of the requirements applicable to larger generators. For example, for recordkeeping a small quantity generator has 60 days, instead of 45 days, to file an exception report with the EPA stating that it has not received a copy of the manifest from the TSDF indicating acceptance of the waste.[124] With respect to reporting, these small quantity generators do not need to prepare biennial reports.[125]

The second class of small quantity generators (those that generate less than 100 kg of hazardous waste per month), also known as very small quantity generators, are exempt from most of the generator requirements under certain conditions.[126] However, to qualify for the exemption, very small generators must meet certain minimum standards, such as the transportation of their hazardous wastes to a TSDF with a valid permit.[127]

To exclude some generators from both the small quantity generator status and very small quantity generator status, where the wastes they generate warrant particular attention even at low quantities, the EPA has identified "acute hazardous waste."[128] If a generator would normally qualify for small quantity generator status, but produces acutely hazardous wastes above certain minimal quantities, the generator is not a small quantity generator.[129]

4. Transporters—Requirements Applicable to Hazardous Waste Transporters

If a transportation agency transports hazardous wastes that it has generated or that have been generated by another entity, it becomes subject to RCRA's regulations governing hazardous waste transporters.[130] As with generators, transporters of hazardous waste must complete manifests and comply with certain recordkeeping requirements.[131]

Even if a transportation agency does not transport hazardous wastes, the RCRA transporter requirements merit consideration when an agency is selecting a transporter for its hazardous wastes. A transportation agency will want to select a reputable, responsible transporter. The transportation agency should consider the EPA and state environmental enforcement records, as well as the proposed transporter's financial circumstances and insurance coverage.

a. Manifest Requirements

A transportation agency that transports hazardous wastes should only accept hazardous wastes from a generator who has a manifest accompanying the waste.[132] The transportation agency must sign and date the manifest upon receipt of the hazardous waste[133] and must transport the waste with the manifest.[134] The transportation agency must also comply with the terms of the manifest by shipping the waste to the TSDF specified therein.[135]

For transportation agencies that operate ferry systems, there are additional RCRA transporting requirements applicable to ferries or any water transporters of hazardous waste to consider.[136] Similarly, RCRA regulations also establish specific requirements for shipments of hazardous waste involving rail transporters[137] and transporters of hazardous waste from a small quantity generator.[138]

b. Recordkeeping Requirements

Hazardous waste transporters must keep copies of all manifests for a 3-year period.[139] The manifests should be signed by the generator, the transporter, and either the next designated transporter or the owner or operator of the designated TSDF.[140] Additional recordkeeping requirements exist for water transporters[141] and railroad transporters.[142]

c. Hazardous Waste Discharges During Transportation

If hazardous waste is discharged during transportation, a transporter must undertake "appropriate immediate action" to protect human health or the environment.[143] The transporter is required to either remediate the discharge or comply with the requested action of federal, state, or local

[122] 40 C.F.R. § 262.44 and §§ 261.5(b), (g).
[123] Acutely hazardous waste is defined by 40 C.F.R. § 261.5(e)-(g).
[124] 40 C.F.R. § 262.42(b).
[125] 40 C.F.R. § 262.44.
[126] 40 C.F.R. §§ 261.5(b), (g).
[127] *Id*.
[128] 40 C.F.R. §§ 261.31, 261.32, and 261.33(e).
[129] 40 C.F.R. § 261.5(e).
[130] *See generally* 40 C.F.R. pt. 263.
[131] *See generally* 40 C.F.R. pt. 263, subpt. B.
[132] 40 C.F.R. § 263.20(a).
[133] 40 C.F.R. § 263.20(b).
[134] 40 C.F.R. § 263.20(c).
[135] 40 C.F.R. § 263.21(a). Where the transporter is unable to transport the hazardous waste to the TSDF designated in the manifest, the transporter is required to contact the generator for further direction. 40 C.F.R. § 263.21(b).
[136] 40 C.F.R. § 263.20(e).
[137] 40 C.F.R. § 263.20(f).
[138] 40 C.F.R. § 263.20(h).
[139] 40 C.F.R. § 263.22(a).
[140] *Id*.
[141] 40 C.F.R. § 263.22(b).
[142] 40 C.F.R. § 263.22(c).
[143] 40 C.F.R. § 263.30(a).

officials to ensure that the hazardous waste is not a hazard to human health or the environment.[144]

Where hazardous wastes are discharged during transportation, a transporter must also provide immediate notice of the discharge to the NRC and subsequently provide a written report to the Office of Hazardous Materials Regulation of the USDOT.[145]

5. Regulation of Treatment, Storage, and Disposal Facilities

A transportation agency that treats, stores, or disposes of hazardous wastes is subject to the RCRA regulations applicable to TSDFs.[146] Because it is unlikely that a transportation agency would own or operate a TSDF itself, the requirements for TSDFs are summarized only generally in this section. However, a general knowledge of the TSDF requirements will aid transportation agencies in selecting a reputable and responsible disposal facility for its hazardous wastes. A transportation agency should carefully select a TSDF to reduce any risk of RCRA liability for improper storage, treatment, or disposal. The EPA and state environmental agency permit compliance status and enforcement actions, as well as the TSDF's financial circumstances and insurance coverage, are among the factors that merit consideration in a transportation agency's selection of a TSDF.

a. Identification Numbers and Permits

An owner or operator of a TSDF must apply for an EPA identification number for its facility.[147] Additionally, a TSDF owner or operator must apply for and receive a TSDF permit from either the EPA or the authorized state agency.[148] The TSDF application has both an introductory Part A and a more specific Part B. Both the Part A application and the Part B application must be submitted before a new TSDF may be operated.[149]

b. Interim Status

Certain TSDFs qualify for interim status, under which RCRA permits the TSDF to continue operating while its permit application is pending. To be eligible for interim status, a TSDF must comply with the interim status RCRA regulations,[150] which are parallel, but not identical to, the RCRA regulations that apply to fully permitted TSDFs.

c. Manifest Recordkeeping and Reporting Requirements

TSDFs must sign and date manifests to acknowledge receipt of the hazardous waste delivered to them.[151] TSDFs must also return copies of the manifest within 30 days to the transporter and generator.[152] Copies of the manifests must be kept for 3 years.[153] Any discrepancies between the manifest and the type or quantity of waste received must be reconciled.[154] If a significant discrepancy remains unresolved, the TSDF must notify the EPA within 15 days of receipt of the waste.[155]

TSDFs are required to keep operating records.[156] The operating records must include, among other things, a description of the quantity of each hazardous waste received and the method and date of its treatment, storage and disposal; the location of each waste within the facility; and results of waste analyses, trial tests, and inspections.[157]

There are also a variety of reports that a TSDF owner or operator must file with the EPA or an authorized state. These include a biennial report of waste management activities,[158] an "unmanifested waste" report within 15 days of a TSDF's receipt of hazardous waste unaccompanied by a manifest;[159] and certain specialized reports, such as an incident report in the event of a hazardous waste release, fire, or explosion.[160]

d. Facility Inspection Requirements

Owners or operators of TSDFs are required to perform periodic self inspections.[161] The inspections must be conducted in accordance with a self-developed written schedule intended to identify problems before they become harmful to human health or the environment.[162] Results of the self inspections must be kept in an inspection log or summary, which must be retained for at least 3 years from the date of inspection.[163] Where the inspection reveals any malfunction of equipment or structures, the owner or operator of the TSDF must take remedial actions to ensure that the malfunction does not lead to an environmental or human health hazard.[164]

e. Personnel Training Requirements

TSDF personnel must be properly trained in the areas to which they are assigned.[165] The personnel must be trained within 6 months of their employment and must take part in an annual review thereafter.[166] The TSDF owner or operator is required to retain training

[144] 40 C.F.R. § 263.31.
[145] 40 C.F.R. § 263.30(c).
[146] *See generally* 40 C.F.R. pt. 264.
[147] 40 C.F.R. § 264.11.
[148] *See* 40 C.F.R. pt. 270, subpt. B.
[149] 40 C.F.R. § 270.10.
[150] 40 C.F.R. pt. 265.
[151] 40 C.F.R. §§ 264.71–.72.
[152] *Id*.
[153] *Id*.
[154] 40 C.F.R. § 264.72.
[155] *Id*.
[156] 40 C.F.R. § 264.73.
[157] *Id*.
[158] 40 C.F.R. § 264.75.
[159] 40 C.F.R. § 264.76.
[160] 40 C.F.R. § 264.56(j).
[161] 40 C.F.R. § 264.15.
[162] 40 C.F.R. § 264.15(a).
[163] 40 C.F.R. § 264.15(d).
[164] 40 C.F.R. § 264.15(c).
[165] 40 C.F.R. § 264.16.
[166] 40 C.F.R. § 264.16(b).

records on its current personnel until the facility is closed.[167]

f. Contingency Planning and Emergencies

TSDF operators must have a contingency plan designed to minimize hazards to human health and the environment in the event of an explosion, fire, or unplanned release of hazardous wastes.[168] The RCRA regulations set forth specific criteria that must be included in the plan, such as a list of all emergency equipment at the facility and an evacuation plan for facility personnel.[169] Copies of the plan must be submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.[170]

g. Location, Operation, and Design Standards

RCRA's implementing regulations contain specific standards that govern the location, design, and operation of TSDFs. These standards are primarily designed to reduce additional risk and pertain to seismic considerations[171] and the protection of floodplains,[172] salt dunes, salt beds, and underground mines and caves.[173]

h. Groundwater Monitoring Requirements

Owners and operators of TSDFs are required to conduct groundwater monitoring beneath their facilities.[174] Where groundwater contamination above applicable regulatory standards exists, the TSDF must undertake corrective action to remediate the groundwater.[175]

i. Corrective Action Requirements

Owners and operators of TSDFs must undertake corrective action for all releases of hazardous wastes from their facilities.[176] The corrective action measures required, and a compliance schedule for completion, are specified in the TSDF's permit.[177] Corrective actions must be implemented beyond the facility's boundary where necessary to protect human health and the environment.[178]

j. Closure and Post-Closure Status

TSDFs must be closed in a manner that will minimize any further maintenance and will control, minimize, or eliminate any post-closure release of hazardous waste.[179] To close, owners and operators of TSDFs must prepare and implement written closure plans.[180] In addition, owners or operators must prepare and implement written post-closure plans that identify any post-closure activities such as groundwater monitoring.[181]

k. Financial Responsibility

TSDF owners and operators must maintain insurance for bodily injury and property damage caused by sudden accidental occurrences arising from the operation of the facility.[182] In addition, TSDFs must provide financial assurance that they have the resources to close their facility.[183] The financial assurance may be provided by a closure trust fund, surety bond, standby letter of credit, closure insurance, a written guarantee from the TSDF's owner or operator's parent corporation, or a financial test prescribed by regulation.[184]

6. Underground Storage Tank Requirements

RCRA and its implementing regulations set forth technical standards for owners and operators of underground storage tanks (USTs).[185] The regulations address both existing tanks that may have caused environmental problems and new tanks that should be designed and operated to prevent future problems.

A transportation agency will be subject to these standards at any of its facilities where it stores petroleum or other regulated substances. Where a transportation agency owns a fleet of vehicles, it is likely that a UST is located in at least one of its facilities. The regulations require tank registration and contain requirements for release reporting, investigation, confirmation, tank closure, and financial responsibility. The following sections generally outline these requirements.[186]

a. Regulated Tanks

The term UST is defined as: "[A]ny one or combination of tanks (including underground pipes connected thereto) which is used to contain an accumulation of regulated substances, and the volume of which (including the volume of the underground pipes connected thereto) is ten per centum or more beneath the surface of the ground…."[187]

RCRA itself and its implementing regulations specifically exempt certain tanks from regulation.[188] If a

[167] 40 C.F.R. § 264.16(e).
[168] 40 C.F.R. § 264.51.
[169] 40 C.F.R. § 264.52(f).
[170] 40 C.F.R. § 264.53.
[171] 40 C.F.R. § 264.18(a).
[172] 40 C.F.R. § 264.18(b).
[173] 40 C.F.R. § 264.18(c).
[174] 40 C.F.R. § 264.91 and § 264.95.
[175] 40 C.F.R. § 264.91(a)(2).
[176] 40 C.F.R. § 264.101(a).
[177] 40 C.F.R. § 264.101(b).
[178] 40 C.F.R. § 264.101(c).
[179] 40 C.F.R. § 264.111.
[180] 40 C.F.R. § 264.112(b).
[181] 40 C.F.R. § 264.118.
[182] 40 C.F.R. § 264.147(a).
[183] 40 C.F.R. § 264.143.
[184] *Id*.
[185] *See generally* 42 U.S.C. § 6991 *et seq*. and 40 C.F.R. pt. 280.
[186] *Id*.
[187] 42 U.S.C. § 6991(10).
[188] 42 U.S.C. § 6991(10) and 40 C.F.R. § 280.10(b).

transportation agency has any UST, it should examine RCRA and its implementing regulations to determine whether the tank is subject to RCRA's requirements. The following discussion assumes the UST in question is a regulated tank.

b. Tank Registration and Notification Requirements

All owners of USTs must register their tanks with the regulating state agencies.[189] Information concerning the age, size, type, location, and uses of the tank(s) must be provided to the agency.[190] Information about new tanks must be provided within 30 days of the tank's existence.[191] Similarly, when a tank is removed from operation, the owner must provide the agency with information about the tank as of the date of removal.[192]

c. Performance Standards

RCRA's implementing regulations contain technical construction and operating standards for new and existing USTs. All USTs must adhere to "general operating requirements."[193] However, new USTs must be properly constructed, installed, protected from corrosion, used properly, and designed and constructed with proper underground piping.[194] Existing USTs must be upgraded to comply with the standards applicable to new USTs in accordance with a timetable established by the agency.[195]

d. Release Detection

Owners of USTs must implement certain techniques designed to detect that a regulated substance is leaking or has discharged from a UST. The RCRA regulations permit a variety of approaches for detection, which include inventory controls, manual tank gauging, automatic tank gauging, tank rightness testing, vapor monitoring, ground water monitoring, and interstitial monitoring (i.e., monitoring both the UST and a secondary barrier).[196]

e. Release Reporting, Investigation, and Response

Owners and operators of USTs must report suspected releases, spills, and overflows, as well as confirmed releases, to the appropriate authorized agency.[197] All UST owners and operators must investigate and confirm suspected releases within 7 days or another reasonable time imposed by the implementing agency.[198] However, these reporting time periods may be superseded by notification requirements under other regulatory programs.[199]

Once a release is confirmed, owners and operators must comply with certain corrective action requirements. These actions include reporting the release to the implementing agency; taking immediate action to prevent any further release of the regulated substance into the environment; and identifying and mitigating any fire, explosion, and vapor hazards that may be associated with the release.[200]

f. Closure and Change-in-Service Requirements

Occasionally, owners and operators of USTs will temporarily discontinue the use of a UST. However, simply discontinuing the use of a UST does not relieve an owner or operator from complying with certain RCRA regulations. Owners and operators must still comply with the requirements governing the operation and maintenance of corrosive protection and release detection systems, as well as requirements for release reporting, investigation, confirmation, and corrective action if a release is suspected or confirmed during the period of temporary closure.[201] Additional requirements are imposed on owners and operators where a UST undergoes a "change-in-service" (i.e., it is used to store a nonregulated substance) or is permanently closed.[202]

g. Financial Responsibility Requirements

Owners and operators of USTs must demonstrate financial responsibility for taking corrective action and for compensating third parties for bodily injury and property damage caused by releases from USTs.[203] There are a number of mechanisms that an owner or operator may employ to demonstrate financial responsibility.[204] These include insurance coverage, surety bond, a letter of credit, state fund or other state assurance, trust fund, standby trust fund, and self-assurance (upon compliance with financial test criteria).[205]

7. Enforcement for Violations of RCRA

RCRA provides both the EPA and private citizens with a range of legal mechanisms for enforcing hazardous waste requirements.

a. EPA Enforcement

Prior to undertaking enforcement, the EPA has specific information-gathering authority that permits it to gain access, copy records, and make formal demands

[189] 42 U.S.C. § 6991a(a)(1).
[190] *Id*.
[191] 42 U.S.C. § 6991a(a)(3).
[192] 42 U.S.C. § 6991(a)(2)(B).
[193] 40 C.F.R. §§ 280.31–.34.
[194] 40 C.F.R. § 280.20.
[195] 40 C.F.R. § 280.21.
[196] 40 C.F.R. § 280.43.
[197] 40 C.F.R. § 280.53.
[198] 40 C.F.R. § 280.52.
[199] *See, e.g.,* notice requirement of 72 hours for release or threat of release from a UST under Massachusetts Contingency Plan, 310 C.M.R. 40.0313(2); 40.0314.
[200] 40 C.F.R. § 280.61.
[201] 40 C.F.R. § 280.70(a).
[202] 40 C.F.R. §§ 280.71–.72.
[203] S*ee generally* 40 C.F.R. pt. 280, subpt. H.
[204] 40 C.F.R. §§ 280.94–.104.
[205] *Id*.

for information from a regulated facility.[206] Once the EPA has sufficient information indicating that a regulated entity is in violation of RCRA, the EPA may either issue an order that assesses a civil penalty of not more than $27,500 per day, issue an order requiring compliance within a specified time, or commence a civil action seeking civil penalties and/or injunctive relief.[207]

In addition to these civil enforcement actions, the EPA and the U.S. Department of Justice may criminally prosecute any "person" who "knowingly" violates certain RCRA provisions.[208] Upon conviction, the violator may be subject to a fine of $250,000, imprisonment for not more than 15 years, or both.[209]

b. Citizen Suits

RCRA authorizes "any person" to commence a civil action against any other person alleged to be in violation of a RCRA regulation or standard.[210] Written notice of the lawsuit must be provided to the alleged violator 60 days prior to commencement of the action.[211] However, citizen suits are not permitted where the EPA or state agency is prosecuting a civil or criminal action with respect to the alleged violation.[212] Citizen suits are also not generally permitted for general or wholly past violations of RCRA.[213]

A transportation agency may not only be the subject of citizen suits under RCRA, but may also institute an action against a violator of RCRA. Where a transportation agency discovers that contamination has migrated from an abutting property to a construction site or one of its facilities, the transportation agency may consider filing a RCRA citizen suit, in addition to pursuing any remedies under CERCLA and its state law analogues.

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[206] 42 U.S.C. § 6927.
[207] 42 U.S.C. § 6928(a)(1).
[208] 42 U.S.C. § 6928(d).
[209] 42 U.S.C. § 6928(e), (f).
[210] 42 U.S.C. § 6972(a).
[211] 42 U.S.C. § 6972(b)(1)(A).
[212] 42 U.S.C. § 6972(b)(1)(B).
[213] Coalition for Health Concern v. LWD, Inc., 60 F.3d 1188 (6th Cir. 1995) (finding that plaintiffs could not attack the RCRA permitting process as a whole, as opposed to current problems).