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Solid Waste Management in Pennsylvania

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Overview of Solid Waste Management in Pennsylvania

The purpose of this chapter is to provide a basic understanding of the principal laws and regulations that affect solid waste management in Pennsylvania. The primary focus is on Pennsylvania statutory law and, in particular, the Pennsylvania Solid Waste Management Act and the rules and regulations promulgated by the Environmental Quality Board pursuant to the Act. The Municipal Waste Planning, Recycling and Waste Reduction Act and the Infectious and Chemotherapeutic Waste Law will also be addressed, as will the impact of federal law, principally the Resource Conservation and Recovery Act, upon solid waste management in the Commonwealth.

The Solid Waste Management Act

The Solid Waste Management Act (SWMA) is the most important Pennsylvania statute governing solid waste management.[1] The Pennsylvania Department of Environmental Resources (DER) is the agency that is given the primary responsibility for implementing the law. The SWMA was enacted in its current form on July 7, 1980, and has been amended infrequently since that time. The prior version of the SWMA was enacted in 1968.[2] Before that, solid waste was regulated in Pennsylvania under the Clean Streams Law (CSL),[3] which continues to play an important role in solid waste management matters affecting the quality of surface and ground waters in the Commonwealth.

The SWMA treats each of the three types of solid waste-municipal, residual and hazardous waste-in separate articles (Articles II, III, and IV, respectively). Permitting and enforcement provisions for all types of waste are consolidated in two other articles, Articles V and VI, respectively, and general provisions containing definitions and the powers and duties of the three agencies involved in implementation of the SWMA are contained in Article I. These agencies are:

1. DER (responsible for permitting and enforcement, which may, in certain instances, be shared with county health departments);
2. The Environmental Quality Board (EQB) (responsible for promulgating regulations); and
3. The Environmental Hearing Board (EHB) (responsible for hearing and deciding appeals of actions taken by DER under the SWMA).

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[1] PA. STAT. ANN. tit. 35, §§6018.101-6018.1003 (1993). [Hereinafter "PA. STAT. ANN. tit. 35" is designated "35 P.S."].

[2] Act of July 31, 1968, P.L. 788, No. 241, formerly codified at 35 P.S. §§ 6001-6017.

[3] 35 P.S. §§ 691.1-691.1001 (1993).

What is Waste?

In dealing with any legal issue under the SWMA, the first question that has to be addressed is whether the material involved is a waste. Unfortunately, this is not a question easily resolved by reference to the statute because it does not contain a definition of waste. There is a definition of "solid waste," which is important in clarifying the scope of materials dealt with under the SWMA, though not particularly helpful in defining what a waste is. A solid waste is:

> Any waste, including, but not limited to municipal, residual or hazardous wastes, including solid, liquid semisolid or contained gaseous materials. The term does not include coal ash or drill cuttings.[4]

The definition makes clear that "solid" wastes are not "solid" in the ordinary sense. They include both liquid and gaseous materials. The definition also recognizes that special treatment is afforded to certain coal and oil industry wastes that are not covered by the SWMA.

Beyond this statutory definition, the EQB has struggled over the years with developing a definition of waste in connection with the promulgation of regulatory programs for each of the three major types of waste: municipal, residual, and hazardous. In the municipal waste regulations, the definition of waste focuses on the disposition of the material. Thus, a waste is a material "whose original purpose has been completed and which is directed to a disposal or processing facility, or is otherwise disposed."[5] The term excludes certain materials–source-separated recyclable materials (limited by the regulations to specified recyclables) and materials approved by DER for beneficial use (discussed in section 11-1.1.3)-with continuing value after their original purpose has been completed.

The residual waste regulations shift the focus of the definition to the relationship between the material and the process by which it was generated. Here, a distinction is drawn between manufactured "products" or their equivalents (co-products) on the one hand and wastes from manufacturing processes on the other.[6]

Products are considered to be the "sole or primary intended result of a manufacturing or production process." Certain secondary materials that do not meet this standard, but are consistently equivalent to or exceed the physical character and chemical composition of a product or raw material (including "off-spec" manufactured goods and qualifying expended materials, i.e., materials that can no longer be used for their intended purpose without being processed) are deemed to be co-products and not wastes. Whether the material has to be processed before use, the regularity of such use, and the impact on health and the environment are also considered.

Even if a material does not qualify as a co-product under the residual waste regulations, it can qualify as a non-waste (i.e., be "dewasted") if DER approves it for beneficial use (see *Activities Covered* page 4) or if, in issuing a permit for a waste processing facility,

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[4] 35 P.S. § 6018.103.

[5] 25 Pa. Code § 271.1 (1993).

[6] 25 Pa. Code § 287.1(1993).

DER determines that a processed waste will be used as a substitute for a raw material or product and is no more harmful; will not harm public health, safety, welfare or the environment; and contributes to and does not interfere with the usefulness of the product.

Finally, materials that are directly recycled or reused on-site in the manufacturing process by the generator without treatment, processing or release to the environment are not wastes under the residual waste definition.

All other materials generated by a manufacturing process are considered to be waste, including by-products; expended materials that do not qualify as co-products; materials that are abandoned or disposed of; and contaminated soil, water or other residues from a spill, leak, or dumping into the environment.

The hazardous waste regulations use a scheme similar to the residual waste regulations for determining whether a material is a waste.[7] This scheme differs in some respects from the definition of solid waste under the federal hazardous waste regulations, primarily as a result of more rigorous regulation of recycling and reclamation activities under the state program.[8]

In all instances, it is important to consult the statute and regulations to determine whether a particular material, even though it is a waste, may nevertheless be excluded from regulation or subject to less rigorous standards under a particular exception.

Types of Waste: Municipal, Residual, and Hazardous

Along with deciding whether a material is regulated as a waste, it is equally important to determine whether the material is classified as a municipal, residual, or hazardous waste, since different regulatory requirements apply to each category. The first two categories are defined according to the source of the material; the third category is dependent principally on the nature of the material rather than its source.

Municipal Waste: Municipal waste is waste that is generated by residential, municipal, commercial, or institutional establishments.[9] Commercial establishments include stores, markets, office buildings, restaurants, shopping centers, and other nonmanufacturing and nonprocessing businesses. Institutional establishments include hospitals, nursing homes, schools, universities, and other service establishments. Municipal waste also includes sludges, which are not residual or hazardous waste, from municipal, commercial, or institutional water or waste water treatment plants or air pollution control facilities.

Infectious and chemotherapeutic wastes (medical wastes) are regulated as municipal wastes because they are generated from institutional sources. These wastes are also regulated under the Infectious and Chemotherapeutic Waste Law.[10]

Residual Waste: Residual waste is waste that is generated by an industrial, mining, or agricultural operation and sludge from an industrial, mining, or agricultural water or waste water treatment plant or air pollution control facility that is not hazardous waste.[11] It does not include coal refuse or treatment sludges from coal mine drainage treatment plants

[7] 25 Pa. Code § 260.1 (1993).
[8] *See* 40 C.F.R. § 261.2.
[9] 35 P.S. § 6018.103.
[10] 35 P.S. §§ 6019.1-6019.6 (1993).
[11] 35 P.S. § 6018.103.

operated in compliance with a valid CSL permit.

Hazardous Waste: With certain exceptions discussed in more detail in *Exclusions* page 37, the SWMA definition of hazardous waste encompasses all sources of municipal and residual waste that generate wastes that because of their quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in death or disease rates or pose a substantial hazard to human health or the environment when improperly managed.[12]

The hazardous waste regulations identify particular characteristics of waste, i.e., corrosivity, ignitability, reactivity, and toxicity, which, if met by any waste, will render the waste hazardous. The regulations also list specific wastes deemed to be hazardous.[13] Although the statutory definition of hazardous waste is not source-specific, many of the listed wastes are identified by source and the regulation of hazardous waste is largely concerned with wastes generated by industrial activities.

Activities Covered

As already discussed, the SWMA deals with three broad categories of waste. Within these categories, the statute attempts to regulate different kinds of waste management activities. Broadly speaking, these activities include the following:

- Generation
- Storage
- Transportation
- Treatment
- Processing
- Disposal
- Beneficial use, recycling and reclamation

Specific requirements apply to each kind of activity and these requirements vary, depending upon the type of waste. For example, hazardous waste transporters must obtain a license from DER, but residual and municipal waste transporters (except those transporting medical waste) are not required to obtain such a license. Residual waste, in certain circumstances, may be disposed of in unlined landfills, whereas all hazardous and municipal waste landfills in Pennsylvania must have a double liner system with sophisticated leachate collection and treatment systems.

It is important to appreciate the breadth of the definitions of these key activities and several important distinctions between some of them.

Generation: There is no definition in the SWMA of "generation" or "generator." The regulations governing hazardous and residual waste do include definitions of generator (see *Generators* page 26 and *Generators* page 39), however, the regulations governing municipal waste do not, probably evidencing the greater emphasis in the former two

[12] 35 P.S. § 6018.103.

[13] 25 Pa. Code §§ 261.3, 261.10-261.33.

programs on regulating the activities of generators of those types of waste (individual households constitute the overwhelmingly large proportion of municipal waste generators, whereas individual industrial facilities are the source of most residual and hazardous waste).

Generators of any one of the three types of waste may easily become storers, making it important to consult the applicable storage regulations. Generators of residual and hazardous waste may also be subject to source reduction and waste minimization requirements, and reporting and record-keeping requirements. Hazardous waste generators are compelled to comply with the hazardous waste manifest system, the cornerstone of the hazardous waste liability tracking system. Municipal and residual wastes are not subject to manifest requirements, with the exception of infectious and chemotherapeutic wastes.

Storage: The SWMA defines storage as follows:

> The containment of any waste on a temporary basis in such manner as not to constitute disposal of such waste. It shall be presumed that the containment of any waste in excess of one year constitutes disposal. This presumption can be overcome by clear and convincing evidence to the contrary.[14]

The important point to note about storage is that it may become disposal after a year. Once this happens, an entirely different and more rigorous set of regulations comes into play.

Disposal: Disposal is defined by the SWMA in an extremely broad fashion to include the following:

> The incineration, deposition, injection, dumping, spilling, leaking, or placing of solid waste into or on the land in a manner that the solid waste or a constituent of the solid waste enters the environment, is emitted into the air or is discharged to the waters of the Commonwealth.[15]

Disposal activities can be purposeful, such as depositing waste in a landfill, or unintentional, such as an accidental release to the ground of drummed waste awaiting collection and off-site transportation. Disposal activity is generally perceived as being particularly threatening to the environment, especially ground and surface waters, if not managed properly and the regulations governing the design, construction and operation of disposal facilities are particularly detailed and onerous.

Transportation: The requirements applicable to waste transportation are triggered by the:

> off-site removal of any solid waste at any time after generation.[16]

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[14] 35 P.S. § 6018.103.
[15] 35 P.S. § 6018.103
[16] 35 P.S. § 6018.103.

Detailed requirements governing transportation of waste are found in the regulations governing municipal, residual, and hazardous waste; however, only medical waste and hazardous waste transportation are subject to mandatory statutory licensing requirements. Both transporters and generators may be subject to requirements relating to waste transportation. For example, under the hazardous waste regulations, the waste generator bears the responsibility for ensuring that the waste is properly manifested, packed, labelled, and marked, and that the vehicle is placarded in accordance with U.S. Department of Transportation regulations.[17]

Treatment: Treatment is a type of waste management activity that is regulated under the SWMA with respect to hazardous waste. It is defined as follows:

> Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, suitable for recovery, suitable for storage, or reduced in volume. Such term includes any activity or processing designed to change the physical form or chemical composition of waste so as to render it neutral or nonhazardous.[18]

Treatment operations most frequently involve liquid wastes and sludge. Such activities may take place in off-site commercial or on-site "captive" facilities (a captive facility is a facility located upon the land of the generator, which is operated solely to treat or dispose of the generator's waste); however, they often take place in tanks or piping that are directly connected to manufacturing processes. This may make it difficult to determine where the unregulated manufacturing process ends and the SWMA-regulated waste treatment process begins. As a result, the hazardous waste regulations have a specialized category of treatment facilities referred to as "totally enclosed treatment facilities" that are subject to less rigorous regulatory requirements in recognition of their close relationship to the manufacturing process and minimal potential adverse environmental impact.[19]

Processing: The term "processing" is used under the SWMA to refer to a broad class of municipal and residual waste handling activities:

> Any method or technology for the purpose of reducing the volume or bulk of municipal or residual waste or any method or technology used to convert part or all of such waste material for off-site reuse.[20]

Processing also specifically refers to transfer, composting, and resource recovery facilities and excludes collection or processing centers for source-separated recyclable

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[17] 25 Pa. Code §§ 262.30, 262.33.

[18] 35 P.S. §6018.103.

[19] 25 Pa. Code § 264.1(c)(6) (1993).

[20] 35 P.S. § 6018.103.

materials. The latter exclusion presumably reflects the intent to otherwise include, by implication, collection and recycling centers that deal with non-source separated materials, and thereby reverse the decision of the Commonwealth Court in *DER v. O'Hara Sanitation Co.*, which, prior to amendment of the statutory definition of processing in 1990, held that certain recycling activities were not processing and, therefore, did not require an SWMA permit.[21]

The SWMA separately defines transfer facility as follows:

> A facility which receives and processes or temporarily stores municipal or residual waste at a location other than the generation site, and which facilitates the transportation or transfer of municipal or residual waste to a processing or disposal facility.[22]

By virtue of this definition, an off-site storage facility for residual or municipal waste is considered both a storage and a processing facility and therefore must obtain a solid waste permit, a requirement that is not otherwise directly applicable to storage facilities for municipal or residual waste. In *S. H. Bell Company v. DER*,[23] the EHB has held that the placement of waste on the ground for a brief period–fifteen minutes–during what amounts to a continuous transferral process from truck to loading pad to barge does not constitute temporary storage, whereas waste off-loaded from a truck onto a pad to allow it to accumulate before loading it onto a barge in the absence of continuous transferral, constitutes temporary storage.

Composting and resource recovery are not defined under the SWMA although these activities are defined under the municipal and residual waste regulations[24] and resource recovery is defined under the Municipal Waste Planning, Recycling and Waste Reduction Act.[25]

Recycling, Reclamation and Beneficial Use: Recycling and reclamation are not defined in the SWMA; however, the concept of "beneficial use," which constitutes the end use of recycled or reclaimed material, is a defined term and both recycling and reclamation are waste management activities that DER regulates under the SWMA.

In recognition that materials that fall within the definition of solid waste or materials derived from solid waste may be reusable, the SWMA charges DER with the duty to "encourage the beneficial use or processing of municipal or residual waste when the department determines that such use does not harm or present a threat of harm to the health, safety or welfare of the people or the environment" and requires regulations to effectuate this purpose, including regulations providing for the issuance of general permits.[26] "Beneficial use" is defined as follows:

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[21] D.E.R. v. O'Hara Sanitation Co., 562 A.2d 973 (Pa. Commw. Ct. 1989).

[22] 35 P.S. § 6018.103.

[23] S.H. Bell Co. v. D.E.R., 1991 E.H.B. 587.

[24] 25 Pa. Code §§ 271.1, 287.1.

[25] 53 P.S. § 4000.103.

[26] 35 P.S. § 6018.104(18).

> Use or reuse of residual waste or residual material derived from residual waste for commercial, industrial or governmental purposes, where the use does not harm or threaten public health, safety, welfare or the environment, or the use or reuse of processed municipal waste for any purpose, where the use does not harm or threaten public health, safety, welfare or the environment.[27]

Written approval for beneficial use of residual or municipal wastes must be obtained from DER and detailed procedures for obtaining such approvals and governing beneficial use generally are found in the municipal and residual waste regulations. These procedures are discussed in *Recycling and Beneficial Use* page 16, *Processing and Disposal Facilities* page 18, and *Processing and Disposal Facilities* page 29. Special requirements applicable to hazardous waste that is used, reused, recycled, or reclaimed are found in the hazardous waste regulations as discussed in *Recycled and Reclaimed Hazardous Waste* page 37 and *Treatment, Storage, and Disposal Facilities* page 42.

Care must be taken to differentiate between regulated recyclables, which may be subject to less stringent requirements than other regulated wastes, and materials which are unregulated because they are not wastes, e.g., co-products, certain source separated recyclables and materials approved for beneficial use. See *What is Waste?* page 2 and *Recycling and Beneficial Use* page 16.

Types of Requirements Imposed

There are a number of basic categories of requirements that apply to most types of waste management activities. The major categories are briefly described below.

Notification and Identification Numbers: Notification requirements may require a regulated entity to notify the government of its identity and the nature of its regulated activity and to obtain an identification number that is used for record-keeping and reporting purposes. For example, under the hazardous waste regulations, most generators, transporters, and owners and operators of treatment, storage, or disposal facilities may not engage in waste management activities without having received an identification number from DER. This identification number is obtained by filing a notification form including information concerning the identity of the regulated entity and the nature of its waste management activities.[28] Large-quantity residual waste generators who do not have a hazardous waste identification number must obtain one from DER for use in submitting biennial reports.[29]

Permits and Licenses: Certain waste management activities require prior authorization by permit. Facilities that generate waste do not require a permit under the SWMA for generation; however, municipal and residual waste processing and disposal facilities do require an SWMA permit prior to the commencement of construction or operation, as do hazardous waste treatment, storage, and disposal facilities.[30] Hazardous waste transporters

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[27] 35 P.S. § 6018.103.

[28] *See*, e.g., Pa. Code §§ 262.12, 263.11, and 264.11.

[29] 25 Pa. Code § 287.52(b)(2).

[30] 35 P.S. §6018.501(a).

must obtain an SWMA license.[31] Medical waste transporters must also obtain licenses under the Infectious and Chemotherapeutic Waste Law.[32]

Permits and licenses are obtained from DER. Applications for permits are submitted to the regional DER office and applications for transportation licenses are submitted to DER's central office in Harrisburg. DER is authorized to impose terms and conditions in permits and licenses to implement the SWMA and its rules and regulations.[33] Simplified permits, referred to as permits-by-rule and general permits, are available in limited circumstances (these permits are discussed elsewhere in this chapter in connection with the specific waste management programs).

In certain instances, the siting of solid waste management facilities must meet certain siting or planning criteria. For example, there are extensive siting criteria that apply to the siting of hazardous, municipal, and residual waste disposal facilities limiting the location of such facilities in proximity to wetlands, floodplains, and other sensitive environmental features (see *Processing and Disposal Facilities* page 18, *Processing and Disposal Facilities* page 29 and *Treatment, Storage, and Disposal Facilities* page 42). With regard to planning considerations, permits for municipal waste disposal and resource recovery facilities must be included in or not interfere with applicable county waste management plans adopted under the Municipal Waste Planning, Recycling and Waste Reduction Act. See *County Municipal Waste Management Plans* page 23.

Design, Construction, Operating, and Closure Requirements: The bulk of the regulations governing solid waste management in Pennsylvania are specific requirements concerning the design and construction of waste management facilities and requirements governing the ongoing operation as well as closure (and, in certain instances, post-closure care) of such facilities. These requirements apply to owners and operators of facilities that must obtain a permit or license as well as facilities that may not be subject to permitting or licensing requirements, but nevertheless engage in regulated activities, such as generators and municipal and residual waste storage facilities. Operational requirements include such activities as monitoring, maintenance, security, inspections, emergency planning, financial responsibility (bonding and insurance), and personnel training.

Reporting and Record-Keeping Requirements: Reporting requirements are generally of two kinds: (1) episodic reports that are required in connection with a release of solid waste to the environment or some other emergency, and (2) periodic reports concerning the regulated entity's waste management operations that are submitted to DER on a regular basis such as quarterly or annually. The latter enable DER to track ongoing compliance with current regulations or to collect information concerning waste handling activities, generally for purposes of assisting in planning or development of future regulations.

An example of an episodic reporting requirement is the SWMA requirement that hazardous waste generators, transporters, treaters, storers, or disposers immediately notify DER and any affected municipality of a spill or discharge of hazardous waste and take

[31] 35 P.S. P.S. § 6018.501(b).

[32] 35 P.S. §6019.2(d).

[33] 35 P.S. § 6018.104(7).

immediate steps to clean it up.[34] An example of a periodic reporting requirement is the requirement that all municipal waste disposal facilities must file with DER annual operating reports including information on the type, volume, and origin of waste received; changes in the facility; ownership and compliance, bonding, and insurance update; and waste analysis update.[35]

Record-keeping requirements typically require the regulated entity to keep information concerning ongoing operations and compliance that may either be required to be reported in summary fashion to DER in the periodic reports mentioned previously or simply to be kept on file to be available in the event that DER inspects the facility.

Municipal Waste Planning, Recycling and Waste Reduction Act

The Municipal Waste Planning, Recycling and Waste Reduction Act (Act 101)[36] primarily deals with (1) the authority for and requirements imposed upon counties to plan for the management of municipal waste generated within their boundaries, (2) the authority of and limitations upon municipalities to regulate municipal waste activities, and (3) the program for municipal waste recycling within the Commonwealth. The Act also grants municipalities certain assistance in regulating landfills and resource recovery facilities within their boundaries and authorizes host community fees. Regulations adopted pursuant to Act 101 are found in the municipal waste regulations.[37]

Infectious and Chemotherapeutic Waste Law

Medical wastes are subject to special regulation under the Infectious and Chemotherapeutic Waste Law[38] as well as regulations adopted under the joint authority of this law, the SWMA, Act 101, and the CSL. The regulations are integrated into the body of the municipal waste regulations and include provisions for obtaining approval to process and dispose of medical wastes and obtain licenses to transport medical wastes. They also include provisions for regulation of medical waste collection, transportation, and storage; general permits and permits-by-rule for certain medical waste processing activities; handling requirements for processing and disposal facilities; and a system for manifesting shipments of medical waste applicable to generators, transporters, and processing and disposal facilities.

Relationship to Federal Law

Although the SWMA focuses equally on municipal and residual waste as well as hazardous waste, the principal focus of solid waste regulation at the federal level has been hazardous waste, regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA)[39] and only secondarily on non-hazardous waste, regulated under Subtitle D of RCRA.[40]

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[34] 35 P.S. § 6018.403(12).

[35] 25 Pa. Code § 273.313 (1993).

[36] 53 P.S. §§ 4000.101-.1904.

[37] 25 Pa. Code Chapter 272.

[38] 35 P.S. §§ 6019.1-.6.

[39] 42 U.S.C. §§6921-6939(e) (1988). The formal name of the statute is the Solid Waste Disposal Act, however, it is commonly referred to as RCRA, the comprehensive amendment of the Act passed in 1976, which is the terminology used here.

[40] 42 U.S.C. §§ 6941-6949a.

RCRA Subtitle C

With respect to the regulation of hazardous waste, the U.S. Environmental Protection Agency (EPA) first promulgated detailed and comprehensive regulations dealing with the identification, generation, transportation, treatment, storage, and disposal of hazardous wastes in May, 1980, which became effective throughout the country in November, 1980. EPA has amended those regulations on numerous occasions since that time. In order to avoid duplicative regulation at the federal and state levels, and in particular, duplicative permitting requirements, RCRA enables any state with an equivalent regulatory program to obtain federal authorization to implement the state's program, including the authority to issue permits in place of the federal program.[41] Until authorization is obtained, however, the federal program is implemented by EPA, although the states may implement their own regulations at the same time.[42]

Pennsylvania has received authorization to carry out its hazardous waste regulatory program in lieu of the federal program insofar as the "core" RCRA requirements are concerned; however, in November 1984, RCRA was amended by the Hazardous and Solid Waste Amendments (HSWA) to add a number of additional requirements to RCRA, including new requirements restricting the land disposal of hazardous wastes and imposing corrective action requirements in connection with the permitting of treatment, storage, and disposal facilities. Regulations implementing these and other HSWA provisions have been adopted by EPA; however, Pennsylvania has not yet received authorization to carry out these requirements. Until it does, EPA retains the exclusive authority to administer and enforce the HSWA requirements in Pennsylvania. Since those requirements include certain permitting requirements, in most instances, a facility requiring a hazardous waste permit in Pennsylvania will require both a federal HSWA permit and a state hazardous waste permit. See *State and Federal Regulatory Authority* page 33. Generators and transporters also face both SWMA and HSWA requirements.

RCRA Subtitle D

Although RCRA provides for a federal permit program for hazardous waste treatment, storage, and disposal facilities, there is no similar requirement for non-hazardous waste facilities. Instead, under Subtitle D of RCRA, EPA is required to develop national criteria for solid waste disposal activities, including design and operating practices, standards for ground water monitoring, location standards, and corrective action requirements.[43] States are required to develop and implement EPA-approved state plans providing for the upgrading or closure of non-conforming facilities, referred to under Subtitle D as "open dumps" which are prohibited under RCRA.[44] This prohibition is enforceable by the states and by citizens under RCRA's citizen suit provision, but not by EPA. The states are also required to develop a permit program to assure compliance with the criteria.[45] If the states fail to

[41] 42 U.S.C. § 6926.
[42] 42 U.S.C. § 6929.
[43] 42 U.S.C. §§ 6944, 6945, 6949a, and 6907(a).
[44] 42 U.S.C. §6945.
[45] 42 U.S.C. § 6945c.

adopt and obtain EPA approval of the permit program, the criteria are self-implementing and EPA is authorized to enforce the criteria in the non-complying state.[46]

Until October, 1991, the EPA criteria were limited to general performance standards largely defining which solid waste disposal practices constituted prohibited open dumping.[47] At that time, EPA promulgated detailed standards governing municipal solid waste landfills that the states must incorporate into their permit programs and receive EPA approval.[48] The criteria, which apply to any landfill accepting household waste, took effect, with certain exceptions, in October, 1993. If the states did not have approved programs in effect by that time, EPA may enforce the standards. As of the writing of this book, EPA had not made a final decision on Pennsylvania's program.

RCRA Enforcement/Citizen Suits

In addition to these standards, EPA has the general enforcement authority to bring suit in federal district court to protect the environment from imminent and substantial endangerment from the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste by restraining any person who has contributed or is contributing to such activity or to order such person to take other action as may be necessary.[49]

RCRA also provides authority for citizens to bring suit in district court against any person, including government agencies, alleged to be in violation of any permit or other requirement that has become effective pursuant to RCRA or who has caused or contributed to waste handling activities that may present an imminent and substantial endangerment to health or the environment. Prior notice of either 60 or 90 days must be given to EPA, the state, and the prospective defendant(s) and other preconditions must be satisfied.[50] The SWMA has no comparable citizen suit authority.

CERCLA

The federal Comprehensive Environmental Response, Compensation and Liability Act, as amended (CERCLA) deals primarily with cleaning up closed or abandoned waste dump sites, although the central liability provision of the statute imposes liability for cleanup upon various parties, including current and past owners and operators, generators, and in some instances transporters, for cleanup costs at any facility from which there is a release or threat of a release of hazardous substances. The law makes no distinction between operating, closed, and abandoned facilities, nor does it matter whether the wastes disposed of at the facility were municipal, residual, or hazardous wastes as long as they contained hazardous substances.[51] The latter include hazardous wastes and other hazardous materials listed by EPA pursuant to CERCLA.

CERCLA release reporting requirements could also apply to state regulated solid waste

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[46] 42 U.S.C. § 6945(c)(2)(A).
[47] 40 C.F.R. Part 257 (1993).
[48] 40 C.F.R. Part 258 (1993); 56 Fed. Reg. 50978 (1991).
[49] 42 U.S.C. § 6973.
[50] 42 U.S.C. § 6972.
[51] 42 U.S.C. § 9607(a).

management activities if the released quantity exceeds the CERCLA reportable quantity thresholds.[52]

Interstate Commerce Restrictions

In the 1978 case of *City of Philadelphia v. New Jersey*,[53] the U.S. Supreme Court first determined that solid waste was an article of commerce subject to the limitations upon state regulation inherent in the Commerce Clause of the U.S. Constitution. Thus, states cannot restrict the flow of waste across state borders based simply on the origin of the waste. This principle was underscored in two decisions handed down by the Supreme Court in 1992, *Chemical Waste Management, Inc. v. Hunt*[54] and *Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dep't of Natural Resources*.[55] In the *Chemical Waste* decision the Supreme Court struck down an Alabama law that imposed a higher state disposal fee on waste generated outside Alabama than waste generated within the state. In the *Fort Gratiot* decision, the Supreme Court struck down a Michigan law that prohibited private landfill operators from accepting waste from outside the county in which the landfill is located. The fact that the law treated out-of-county interstate and intrastate waste flows similarly did not alleviate the unlawful discriminatory impact on interstate commerce. A further challenge to waste flow control was upheld in *C&A Carbone, Inc., v. Town of Clarkstown*.[56]

In Pennsylvania, interstate commerce restrictions came into play in the case of *Empire Sanitary Landfill, Inc. v. DER*.[57] In that case, the EHB found that conditions in a landfill permit that prohibited the landfill from accepting new waste from out-of-state except to fill certain existing contracts or unless matched by a fixed proportion of new in-state waste facially discriminated against interstate commerce and were unlawful. The condition at issue in *Empire* implemented standards contained in Executive Order 1989-8 limiting the volume of out-of-state waste that could be accepted in landfill expansions. The Executive Order was ultimately declared invalid by the commonwealth court in *Nat'l Solid Wastes Management Ass'n v. Casey*.[58]

Relationship to Other State Laws

Other Environmental Laws

In dealing with solid waste management issues, other state environmental laws may also be implicated. For example, resource recovery facilities that generate air emissions as a consequence of combustion activities and solid waste landfills that generate fugitive dust from general facility operations must comply with the requirements of the Pennsylvania Air Pollution Control Act.[59] Disposal activities or spills and other releases that pollute or

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[52] 42 U.S.C. § 9603. 40; C.F.R. Part 302 (1994).

[53] 437 U.S. 617 (1978).

[54] _ U.S._, 112 S. Ct. 2009 (1992).

[55] _U.S._, 112 S. Ct. 2019 (1992).

[56] 62 U.S.L.W. 4315 (1994).

[57] 1992 E.H.B. 848.

[58] 600 A.2d 260 (1991), *aff'd per curiam* _A.2d_ (No. 95 M.D. Appeal Docket 1991, filed Feb. 17, 1993).

[59] 35 P.S. §§4001-4015 (1993).

threaten to pollute the surface or ground waters must comply with the CSL.[60] Waste disposal activities or waste management facility siting that encroaches upon wetlands may run afoul of the Dam Safety and Encroachments Act.[61] Remedial actions dealing with the release of hazardous substances may implicate the Hazardous Sites Cleanup Act in much the same way as CERCLA may be implicated under federal law.[62]

In addition to the direct applicability of these and other state environmental laws to a situation involving waste management issues, the SWMA authorizes DER to consider an applicant's compliance with other state and federal environmental protection laws in deciding whether to issue a permit and authorizes DER to revoke a permit based upon noncompliance with these laws.[63]

Relation to Local Land Use Regulation

There have been numerous instances of local efforts to directly and indirectly regulate solid waste management activities through the use of the authority granted to local municipalities to regulate land use. Where these efforts have departed from the traditional areas of local land use regulation delegated to local municipalities through their zoning and general nuisance regulatory authority, the courts have found that such regulation exceeded their authority or was preempted by the legislative delegation of authority to DER to regulate solid waste management activities.

For example, in *Township of Plymouth v. County of Montgomery*,[64] the Commonwealth Court struck down a series of municipal ordinances purporting to regulate the operations, capacity, design, and size of resource recovery facilities within the township, finding that municipal authority to impose such regulations was preempted by the SWMA that granted such authority to DER. In addition, zoning ordinances that exclude waste management facilities (either express or implied) have been found to be unlawful under principles of exclusionary zoning. See, e.g., *Moyer's Landfill Inc. v. Zoning Hearing Board of Lower Providence Township*.[65] In contrast, the Commonwealth Court has upheld the validity of local setback regulations, a traditional zoning tool, as applied to limit the siting of solid waste management facilities (see, e.g., *Sunny Farms, Ltd. v. North Codorous Township and O.U.C.H., Inc.*[66]), and the Supreme Court, by an evenly divided court, has upheld a zoning regulation that allowed municipalities to limit landfill operation to governmental entities. *Kavanagh v. London Grove Township*.[67]

Municipal Waste Management

Municipal waste management is governed primarily by Titles II, V, and VI of the SWMA and 25 Pa. Code Chapters 271-285. The municipal waste regulations were

[60] 35 P.S. §§691.1-691.8 (1993 & Supp. 1994).
[61] 32 P.S. §§693.1-693.27 (Supp. 1994).
[62] 35 P.S. §§6020.101-6020.1305 (1993).
[63] 35 P.S. §6018.503(c), (d).
[64] 531 A.2d 49 (1987).
[65] 450 A.2d 273 (1982).
[66] 474 A.2d 56 (1984).
[67] 404 A.2d 393 (1979).

completely rewritten and repromulgated on April 9, 1988, and most of the current requirements are based upon that rulemaking, as amended.

What is Municipal Waste?

General Definition

The basic definitional issues concerning municipal waste are discussed in *Types of Waste: Municipal, Residential, and Hazardous* page 3. As noted there, municipal waste is primarily waste generated by residences, non-industrial businesses and institutions such as hospitals and schools.

Special Handling Wastes

In addition to what would be considered ordinary household trash, there is a subcategory of municipal waste referred to as special handling wastes. These are wastes that require special management techniques due to the quantity of material or its unique physical, chemical, or biological characteristics.[68] Separate DER approval is usually required to process or dispose of special handling wastes.[69] Special handling wastes include the following:

- Sewage sludge
- Infectious waste
- Chemotherapeutic waste
- Ash residue from a solid waste incineration facility
- Asbestos-containing waste
- PCB-containing waste
- Waste oil that is not hazardous waste
- Fuel-contaminated soil
- Waste tires
- Water supply treatment plant sludge

Crossover Wastes

Because municipal and residual wastes are defined according to the origin of the waste rather than the characteristics, some waste generated by municipal waste generators is really more like residual waste, i.e., waste generated by industry, and some residual wastes are more like municipal waste. To account for this peculiarity in the way wastes are defined, the municipal and residual waste regulations identify so-called "crossover wastes," i.e., wastes that will be regulated either as municipal or residual, irrespective of the source that generated the wastes.[70] Those wastes that are regulated as municipal wastes regardless of their source include:

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[68] 25 Pa. Code § 271.1.

[69] 25 Pa. Code §§273.401-.414 and 273.501-.515.

[70] 25 Pa. Code § 287.2(b).

- Construction/demolition debris
- Infectious and chemotherapeutic waste
- Sewage sludge, including sewage sludge that is mixed with other residual waste
- Leaf waste and grass clippings

Those wastes that are regulated as residual wastes regardless of their source include:

- Water supply plant treatment sludges
- Waste oil
- Waste tires
- Fuel-contaminated soil
- Used asphalt
- Asbestos-containing waste
- PCB-containing waste

In addition, as a matter of agency practice, DER will consider certain additional municipal waste-like residual wastes to be eligible for simplified approval procedures not typically applicable to the processing or disposal of residual wastes (e.g., woodwastes, fabric, cloth, textile and leather wastes, waste paper, plastic, and carpet wastes).

Recycling and Beneficial Use

Since source-separated recyclables are not waste, they are not municipal waste and therefore are not regulated by the municipal waste requirements. Source-separated recyclables are limited by definition to clear and colored glass, aluminum, steel and bimetallic cans, high-grade office paper, newsprint, corrugated paper, plastics, and other marketable grades of paper.[71] Source-separated recyclables may be subject to requirements of local ordinances adopted pursuant to Act 101, which specify the types of waste subject to source separation and recycling requirements. See *Municipal Recycling Programs* page 25.

Other recyclable or reusable processed municipal wastes that are used or proposed to be used for a particular beneficial purpose in lieu of an available commercial product or raw material must first be approved for that use by DER.[72]

Regulation of Municipal Waste Management Activities

Generators

Generators of municipal waste cannot transport or permit the transportation of their waste to a processing or disposal facility unless that facility has a solid waste permit.[73] In addition, processing and disposal facilities may need separate approval to handle special handling municipal wastes or crossover municipal wastes that are regulated as residual wastes.

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[71] 25 Pa. Code § 271.1.

[72] 25 Pa. Code § 271.232.

[73] 35 P.S. § 6018.610(6).

Generators who store municipal waste are subject to the municipal waste storage requirements, although no permit is required.[74] If the waste is stored for more than a year, it is presumed to be disposed and the generator may become subject to the requirements applicable to municipal waste disposal, including the requirement to obtain a permit.[75] Disposal without a permit is defined as unlawful conduct under the SWMA.[76] Processing activity will also require a permit and beneficial use of processed municipal waste requires DER approval.

Special requirements are applicable to generators of infectious and chemotherapeutic wastes under the SWMA regulations and the Infectious and Chemotherapeutic Waste Law, including use of the medical waste manifest (except for small quantity generators–those that generate less than 220 pounds per month), compliance with storage requirements, and eligibility for permit-by-rule and general permits for certain processing and on-site incineration activities.[77]

Transporters

Generally speaking, neither collection nor transportation of municipal waste requires a license or permit from DER, except that medical waste transporters must be licensed under the Infectious and Chemotherapeutic Waste Law[78] and county licenses may be required by ordinance under Act 101.[79] Act 101 also requires the labelling of trucks describing their contents (see *Effect on Transporters* page 24).

The municipal waste regulations contain requirements applicable to collection and transportation of municipal waste, including requirements applicable to the frequency of collection, storage of waste in trucks, collection and transportation equipment, equipment cleaning, spill reporting, record-keeping, and special operational and reporting requirements for ash residue and infectious and chemotherapeutic waste. These requirements are found in 25 Pa. Code Chapter 285. Transportation to a processing or disposal facility without a permit is prohibited.[80] Transporters must also comply with the medical waste manifesting requirements.[81]

Storage

While storage of municipal waste does not require a permit, there are specific requirements that apply to the design and operation of storage facilities, including requirements applicable to containers, storage tanks, and impoundments. In addition, certain kinds of special wastes, including ash residue, infectious and chemotherapeutic waste, and sewage sludge are subject to special storage requirements, including strict limitations on duration of storage, containers, and protection from precipitation.[82]

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[74] 25 Pa. Code Chapter 285.

[75] 35 P.S. §§ 6018.103, 6018.501.

[76] 35 P.S. §§ 6018.610(1).

[77] 35 P.S. § 6019.2(c); 25 Pa. Code §§ 271.102, 271.711-.744, 285.141-.148, 285.411-.414.

[78] 35 P.S. § 6019.2(d).

[79] 53 P.S. § 4000.303(a)(1).

[80] 35 P.S. § 6018.610(6); 25 Pa. Code § 285.215(b).

[81] 25 Pa. Code § 285.421-.424 (1993).

[82] *See* 25 Pa. Code Chapter 285.

Processing and Disposal Facilities

Types of Facilities: The municipal waste regulations contain permitting, design, and operating requirements for the following types of processing and disposal facilities:

- Municipal waste landfills (Chapter 273)
- Construction/demolition waste landfills (Chapter 277)
- Land application of sewage sludge (Chapter 275)
- Transfer facilities (Chapter 279)
- Composting facilities (Chapter 281)
- Resource recovery and other processing facilities (Chapter 283)

In addition to the above, there are provisions for permitting and operation of "demonstration facilities." These provisions apply to processing or disposal facilities or parts of facilities that are based on "a new or unique technique." A "new or unique technique" is one that "has not previously been demonstrated in [Pennsylvania] or another comparable area."[83] Approval for such facilities generally will last until the technology has been adequately demonstrated (generally two years), at which point, the technology may be permitted under the regulations applicable to one of the types of facilities listed above. If the technology is not demonstrated to be effective, the operator will have to cease operations and clean up or remove any waste.

Permitting Requirements: The municipal waste regulations contain general permitting requirements that apply to all processing and disposal facilities-with limited exceptions-as well as specific permitting requirements containing siting and design requirements that apply to each type of facility listed above. Exceptions to the permit scheme include use of agricultural waste in normal farming operations, beneficial use (see *Activities Covered* page 4), leaf composting facilities, specified recycling activities, certain small incinerators, use of certain materials as clean fill, designated compaction equipment, and certain temporary storage of medical waste.[84]

The permitting requirements apply to new facilities as well as major and minor modifications to existing facilities. In addition, when the municipal waste regulations were totally revised and repromulgated in April 1988, existing permitted facilities that intended to continue operating were required to be repermitted under the new regulations and to cease operating in areas that did not meet the upgraded standards in accordance with a schedule and transition scheme set forth in the regulations.[85]

Applications for municipal waste permits are required to be prepared by or under the supervision of a registered professional engineer who is also required to work with experts in soils, geology, and ground water.[86] The general requirements that apply to applications for all types of facilities include the following:

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[83] 25 Pa. Code § 271.501 (1993).
[84] 25 Pa. Code § 271.101(b) (1993).
[85] 25 Pa. Code § 271.111-.113 (1993).
[86] 25 Pa. Code § 271.122 (1993).

- Right of entry–The applicant must furnish information demonstrating its right to operate on property that is the subject of the permit application.[87]
- Identification of interests–The application must contain detailed information disclosing the identity of the applicant, all parties holding an interest in the property, contractors, and all related parties (parent, subsidiary, and affiliated corporations, partners, officers, and principal shareholders). All DER permits and licenses held by these parties and Pennsylvania processing or disposal facilities owned or operated by these parties during the last 10 years must be identified.[88]
- Compliance information–A 10-year compliance history under a wide variety of state and federal environmental laws covering the applicant and any party identified under the "identification of interests" section of the application must be provided. The compliance history includes such information as notices of violation; administrative orders; penalty assessments; criminal convictions; other court proceedings, consent orders, decrees, or settlements; and permit or license suspensions or revocations.[89] The compliance history regulations find their basis in sections 503(c) and (d) of the SWMA, which authorize DER to consider the compliance history of the applicant and certain related parties when issuing, modifying, suspending, and revoking permits.[90]
- Environmental assessment–The environmental assessment process is intended to provide the basis for DER to carry out its obligations to balance any adverse environmental impacts from the facility against social or economic benefits under Article I, Section 27, of the Pennsylvania Constitution. The environmental assessment (which may be waived for certain sludge application projects and minor permit modifications) must address the impact of the facility on a variety of environmental conditions including aesthetics, air and water quality, stream flow, fish and wildlife and their habitat, endangered and threatened species, prime farmland, historic and archeological resources, etc. Mitigation of any adverse environmental impacts must be addressed and an evaluation of countervailing social and economic benefits may be required if any environmental harm cannot be fully mitigated.[91]
- Bonding and financial assurance requirements–Sections 505 and 502(e) of the SWMA authorize the imposition of bonding and public liability insurance requirements upon permitted facilities, and Sections 1107 through 1109 of Act 101 require additional financial assurances from certain municipal waste landfill and resource recovery facility operators. The regulations authorize both surety and collateral bonds for private facility operators and trusts for municipalities operating landfills solely for the disposal of municipal waste. Procedures are included for determining the amount of the bond or trust, adjustment and release of bonds, or withdrawals from municipal trusts and forfeitures. Insurance coverage levels are detailed in the regulations, including both comprehensive general liability and

[87] 25 Pa. Code § 271.123 (1993).
[88] 25 Pa. Code § 271.124 (1993).
[89] 25 Pa. Code § 271.125 (1993).
[90] 35 P. S. §§ 6018.503(c), (d).
[91] 25 Pa. Code §§ 271.126-.127 (1993).

environmental impairment liability coverage. Insurance requirements may be satisfied through commercial insurance, trust funds, insurance pools, and self-insurance mechanisms.[92]

In addition to these general requirements, the municipal waste regulations contain detailed permit application requirements that apply to each of the principal types of processing and disposal facilities. A full recitation of these requirements is beyond the scope of this chapter; however, the following listing briefly summarizes the general types of application requirements:

- Operating plan
- Facility design
- Access
- Nuisance and litter control
- Preparedness, prevention and contingency plan
- Soil, geology, surface and ground water description and alternative water supply information (this information is generally required only for land disposal and land application facilities)
- Leachate control and gas monitoring plans (generally for land disposal facilities)
- Compaction, cover, closure, and postclosure plans (generally for land disposal facilities)
- Waste analysis and operations plans for special handling and residual wastes.[93]

In addition to the above permit application requirements, municipal waste permits are subject to a number of processing requirements and procedures, including the following:

- Permit application fees–These fees vary from $11,400 to process a municipal waste landfill application to $200 for a minor permit modification (e.g., landfill approval to accept a new residual waste stream).[94]
- Public notice, comments, and hearings–The applicant must comply with the newspaper publication of notice requirements for all new permits, renewals, reissuances, and major modifications.[95] DER must publish notice of the application in the *Pennsylvania Bulletin* and furnish a copy of the application to the host county and municipality. The SWMA gives both the right to review any permit application and recommend conditions, revisions, or disapproval, and DER must publish justifications for any override in the *Pennsylvania Bulletin*.[96] Public hearings are discretionary with DER; however, they are usually held if requested by the host county or municipality or a significant number of residents.
- Permit review procedures–DER first performs a "completeness review" of each

[92] 35 P.S. §§ 6018.502(e), -.505; 53 P.S. § 4000.1107-.1109; 25 Pa. Code §§ 271.301-.397.
[93] *See generally* 25 Pa. Code Chapters 273 to 283.
[94] 25 Pa. Code § 271.128 (1993).
[95] 25 Pa. Code § 271.144(a).
[96] 35 P.S. § 6018.504.

application within 60 days of submission. Once the application is complete, DER must complete its technical review within 12 months for landfills and 6 months for all other applications; however, the application is not deemed approved if DER does not finish its review in this time period.[97]

Finally, there are a variety of other permitting provisions that bear brief mention:

- Equivalency review procedure–This is a procedure that allows DER to approve a variance from particular design requirements in the regulations. Equivalency review applies only to certain design requirements identified in the regulations for which performance criteria are specified that the alternative design must satisfy.[98]
- Beneficial use–Procedures are included to be followed to obtain DER approval of requests to beneficially use municipal wastes.[99] As a matter of agency practice, such approvals are granted in the form of an order rather than a permit.
- Permit term–Municipal waste permits are issued for terms not to exceed 10 years and are reviewed by DER at least every 5 years.[100]
- Permit reissuance, renewal–For permit renewals, an application must be filed at least 180 days before the expiration of the permit term. Municipal waste permits are not transferable. While neither the SWMA nor the regulations specifically address the issue, DER policy is that permits must be reissued if there is a change in ownership of the permitted facility (the reissuance regulations indicate that the application for reissuance must contain, among other information, a detailed explanation of the schedule and procedure for transferring control of the facility to the applicant).[101] This has been interpreted to mean that if there is a sale of assets of the company holding the permit, a reissuance is required; however, if there is a sale of stock, there is no change in the ownership of the facility and no reissuance is required. Since this rule of thumb is not set forth in the regulations, it is recommended that DER be consulted with respect to particular circumstances.
- Medical waste permits-by-rule and general permits–In order to simplify the permitting of certain on-site processing activities engaged in by generators of infectious and chemotherapeutic wastes (e.g., use of autoclaves and limited disinfection and incineration), such activities are deemed to have a permit under the municipal waste regulations–a "permit-by-rule"–without the need to apply for and obtain an individual processing permit as long as the generator satisfies minimal notification, operating, and record-keeping requirements.[102] The permitting of other medical waste processing activities may also be simplified by the issuance of a "general permit" by DER that will apply to a category of processing facilities where the facilities and waste processed are substantially similar and subject to regulation

[97] 25 Pa. Code §§ 271.202 -.203; 53 P.S. § 4000.512.
[98] 25 Pa. Code § 271.231.
[99] 25 Pa. Code § 271.232.
[100] 25 Pa. Code § 271.211.
[101] 25 Pa. Code § 271.221.
[102] 25 Pa. Code Chapter 271.

with standard permit conditions. Facilities may qualify for a general permit at the time of issuance or by registration or determination of applicability by DER. Commercial facilities may not qualify for a general permit.[103]

Operating Requirements: A variety of operating requirements apply to municipal waste processing and disposal facilities. The following is a brief summary of the major type of requirements:

- Siting criteria. Each type of facility is subject to limitations upon the areas where the facility is permitted to operate. These limitations usually relate to proximity to certain natural resources (e.g., floodplains, wetlands, limestone or carbonate formations, drinking water sources, perennial streams, etc.) or man-made facilities (occupied dwellings, property lines, airports). As to the latter, Act 101 enacted certain specific limitations with respect to schools, parks, and playgrounds.[104]
- Daily operations (access control, measuring waste, equipment, unloading, air resources protection, nuisance control, scavenging, litter, etc.)
- Water quality protection
- Water quality monitoring (primarily land disposal)
- Emergency procedures
- Reporting and record-keeping
- Closure and, for landfills, postclosure care and monitoring

Penalties, Inspection and Enforcement Standards: The municipal waste regulations specify the circumstances in which civil penalties may be assessed by DER, the criteria that apply to the calculation of the penalty, and the procedures that apply to the assessment of penalties.[105] Certain violations call for the mandatory assessment of a civil penalty under the regulations (e.g., operating without or outside the boundaries of a permit). Minimum penalties are specified for certain violations (e.g., failure to timely comply with a reporting requirement is subject to a minimum penalty of $1000).

Procedures that apply to administrative inspections by DER personnel are also set forth in the regulations. These procedures detail the types of information and areas of the facility to which DER has access, its authority to take samples, minimum inspection frequencies, and circumstances under which it may exercise its inspection authority.

Municipal Waste Planning, Recycling, and Waste Reduction Act (Act 101) Requirements

Act 101 was enacted in September 1988, to provide generally for a more effective system of county-based planning and a regulatory system to ensure adequate capacity to process and dispose of municipal waste generated in Pennsylvania, and also to require recycling at the municipal level and in state procurement activities. The law was also intended to provide certain rights and benefits to host communities to facilitate the siting

[103] 25 Pa. Code Subchapter H.

[104] 53 P.S. § 4000.511 (Supp. 1994).

[105] 25 Pa. Code § 271.401-.413.

of new or expanded municipal waste landfills and resource recovery facilities. The EQB has adopted regulations to facilitate achievement of these objectives.[106]

County Municipal Waste Management Plans

At the core of Act 101 is the county planning process. In brief, each county in the Commonwealth is required to develop and submit to DER for approval a plan for the processing and disposal of all municipal waste generated within its boundaries and is given the authority to implement its approved plan. Counties with approved plans are authorized to require that all municipal waste generated within their boundaries be processed or disposed of at facilities designated in their approved plans.[107] Designated facilities may be located within or outside the county. The counties are given the authority to adopt transporter licensing requirements, and ordinances and regulations to effectuate their plans.[108]

Many counties have adopted wasteflow ordinances under this authority. These ordinances generally designate that waste generated within particular geographic locations within the county be taken to specific facilities for processing or disposal. Transporters collecting wastes in these counties are usually required to take the waste to the designated facilities by the wasteflow ordinance as implemented by a countywide transporter licensing scheme. The Constitutional validity of wasteflow ordinances is open to question. See *Interstate Commerce Restrictions* page 13.

The content of the county plans and procedures for their adoption, revision, and DER approval are found in Chapter 5 of Act 101 and Chapter 272 of 25 Pa. Code. The focus of the plan is an analysis of the municipal waste projected to be generated in each county over the 10 years covered by the plan and a description of the processing and disposal capacity and facilities that will be needed to manage the projected volume, including identification of current and future facilities. Various provisions attempt to insulate certain facilities from being excluded from or adversely affected by county plans. These are facilities that at the time of the enactment of Act 101 either met the complex definition of "existing facilities" found in Section 502(c) or otherwise met the "noninterference" criteria of Section 502(o).[109] Certain "existing contracts" are also afforded a safe harbor under Section 506.[110]

Except as described above, all new contracts for municipal waste processing, collection, or disposal must conform with the DER-approved county plan. In addition, applicants for municipal waste landfill and resource recovery facility permits must demonstrate (1) that the facility is provided for in the plan or will not interfere with the plan or transportation, storage, collection, processing, or disposal in the county, (2) that the facility's location is at least as suitable as alternative locations, and (3) if the county objects to the application, DER determines that it complies with appropriate environmental, public health, and safety requirements.[111]

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[106] 25 Pa. Code Chapter 272.

[107] *See* Harrisburg v. DER, _ A.2d_ (No. 507 C.D. 1993, filed Aug. 19, 1993).

[108] 53 P.S. § 4000.303 (Supp. 1994); 53 P.S. §§4000.501-.513 (Supp. 1994).

[109] 53 P.S. § 4000.502(c), -.502(o).

[110] 53 P.S. § 4000.506.

[111] 53 P.S. § 4000.507.

Finally, Section 1701 of Act 101 makes it unlawful to act in a manner that is contrary to or inconsistent with an approved county plan.[112]

Effect on Transporters

As indicated above, Act 101 authorizes counties to adopt transporter licensing schemes and requires that all transportation contracts be in conformity with the approved county plan. A transporter who takes waste to a facility that is not designated to receive that waste may be in violation of Act 101.

An additional requirement imposed upon transporters by Act 101 is that all solid waste (not only municipal waste) transportation vehicles must bear the owner's name and business address and the type of solid waste transported in lettering at least six inches high.[113]

Effect on Disposal and Processing Facilities

In addition to the county planning and plan implementation requirements of Act 101 that affect disposal and processing facilities in the indirect ways described in *County Municipal Waste Management Plans* page 23, Act 101 contains a variety of requirements that focus more directly on disposal and processing facilities, including the following:

- A recycling fee of $2.00 per ton is imposed for all solid waste (which would include residual as well as municipal waste) processed at resource recovery facilities or disposed of at municipal waste landfills.[114]
- A host municipality benefit fee of $1.00 per ton of solid waste (or as may be agreed to in writing between the municipality and the operator) is imposed on the operator of each municipal waste landfill or resource recovery facility, and negotiated agreements between operators and host counties are authorized.[115]
- Municipal waste landfill and resource recovery facility operators must provide the host municipality with all air and water quality monitoring data within five days after it becomes available to the operator (DER must also provide its monitoring data, copies of inspection reports, and prompt notification of enforcement or emergency actions).[116]
- Municipal inspectors who take a DER training program and are certified after passing an examination, may inspect municipal waste landfills and resource recovery facilities and issue cessation orders of limited duration.[117]
- Landfill operators are required to test the private water supplies of contiguous property owners upon request and all municipal waste management facilities that adversely affect a public or private water supply are required to replace the affected supply.[118]

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[112] 53 P.S. § 4000.1701.
[113] 53 P.S. § 4000.1101(e).
[114] 53 P.S. § 4000.701.
[115] 53 P.S. § 4000.1301.
[116] 53 P.S. § 4000.1101.
[117] 53 P.S. § 4000.1102.
[118] 53 P.S. §§ 4000.1103 -.1104.

- Environmental impairment liability insurance requirements are established for municipal waste landfills and resource recovery facilities and a postclosure fund requirement applicable to landfills is established, which requires the payment of 25 cents per ton into a site-specific trust fund to be used to fund remedial measures and emergency actions after closure.[119]
- Act 101 requires that capacity be reserved for the host county and host municipality in all permits for new municipal waste landfills and resource recovery facilities and permits for expanded capacity or an increase in the average or maximum daily volume at existing facilities. The capacity terms must either be agreed upon by negotiation or are subject to arbitration.[120]
- DER is granted authority to impose maximum or average daily volume limitations in municipal waste landfill permits, and requested modifications to increase these volume limits are subject to specified criteria.[121]
- Landfills and processing facilities may not accept truckloads composed primarily of leaf waste other than for composting and must establish a dropoff center for the collection and sale of at least three recyclable materials. Resource recovery facilities must also have a program to remove recyclables and hazardous materials from the waste stream to the extent practicable.[122]

Municipal Recycling Programs

Act 101 requires all municipalities (except counties) with a population in excess of 5,000 to establish by ordinance and implement a source separation and collection program for recyclable materials. The ordinance must require source separation of at least three recyclable materials and leaf waste generated at homes, apartments, and other residential establishments, as well as separation of high-grade office paper, aluminum, corrugated paper, and leaf waste at commercial, municipal, or institutional establishments.[123]

Miscellaneous

Act 101 includes a variety of other provisions covering disposal and recycling of lead acid batteries, household hazardous waste collection and disposal programs, municipal waste planning and recycling program grants, and state and local agency procurement procedures.[124]

Residual Waste Management

The regulatory program governing residual waste is derived principally from Article III of the SWMA and is codified at 25 Pa. Code Chapters 287-299. It was completely overhauled by regulations that went into effect July 4, 1992, and borrows heavily from the

[119] 53 P.S. §§ 4000.1108, -.1109.
[120] 53 P.S. § 4000.1111.
[121] 53 P.S. § 4000.1112.
[122] 53 P.S. § 4000.1502.
[123] 53 P.S. § 4000.1501.
[124] 53 P.S. §§ 4000.1510, -.1512, -.901, -.902, -.1511.

municipal waste program. Like municipal waste, residual waste is defined by the source of the waste rather than by its characteristics, although, as discussed above in connection with municipal waste, certain "crossover wastes" are regulated as either municipal or residual waste according to their characteristics rather than their source of generation. See *Crossover Wastes* page 15.

Further, like the municipal waste regulations, permits are required for processing and disposal and neither transportation nor storage requires a license or permit (however, as with municipal waste, temporary storage off the site of generation to facilitate transportation to a processing or disposal facility is considered a transfer facility, which constitutes permittable processing activity, and storage and transportation are subject to design and operating requirements).

The procedures governing and the content of permit applications and the requirements applying to facility operations are very similar to those governing municipal waste; however, the residual waste regulations contain specialized permitting provisions referred to as "permits-by-rule" and "general permits,"which authorize certain residual waste activities under greatly simplified permitting procedures. Similar procedures are available under the municipal waste regulations, but are limited to certain activities involving medical wastes.

Unlike the municipal waste regulatory program, the residual waste regulations place more of an emphasis on regulatory requirements applicable to generators. In this regard, the program bears similarities to the hazardous waste program.

What is Residual Waste?

As discussed previously in connection with the definition of solid waste generally, residual waste is waste resulting from industrial, mining, and agricultural operations but not including coal refuse. Residual waste is defined more specifically under the residual waste regulations by reference to the definition of "waste" under those regulations, which is addressed in *What is Waste?* page 2. The residual waste regulations also contain a unique procedure whereby DER, upon request, may determine that a material which would otherwise be considered a waste is no longer a waste if it meets certain criteria. This procedure is also discussed under the definition of waste in *What is Waste?* page 2.

Regulation of Residual Waste Activities

Generators

A generator is any person or municipality that produces or creates a residual waste.[125] The term does not include persons who collect residual wastes such as parts, machinery, vehicles, appliances, and used oil from repair or replacement of such items, nor does it include persons who create residual wastes from a spill, fire, release, accident, or other unplanned event.

A generator is in violation of the SWMA and the residual waste regulations in the event of unpermitted disposal or discharge of its waste by anyone to whom the generator

[125] 25 Pa. Code § 287.1.

(or any other person) has transferred its waste and is liable if its waste is processed or disposed of at a facility without a permit.[126] Residual wastes may be processed or disposed of at permitted municipal or residual waste facilities. An application to process or dispose of each residual waste stream must be submitted by the processing or disposal facility and approved by DER whether the residual waste is processed or disposed of at a municipal or residual waste facility.[127]

Generators are divided into two categories: large- and small-quantity generators, with substantially more relaxed requirements applying to the latter. These categories are discussed below.

Large-Quantity Generators: Large-quantity generators are generators that generate more than 2,200 pounds of residual wastes per generating location in any single month of the preceding year. These generators must comply with three basic requirements:

1. File biennial reports with DER by January 4, 1993, and then by March 1 of each odd-numbered year thereafter.[128] These reports must contain general information concerning the generator, its business, the nature and volume of waste generated, efforts to implement a source reduction strategy, and the processing and disposal facilities authorized to receive the generator's waste.

2. Maintain and implement a source reduction strategy.[129] The source reduction strategy, which was to have been in place as of the effective date of the residual waste regulations (July 4, 1992), must identify the methods the generator will implement to achieve a reduction in the weight or toxicity of its waste, and provide information on source reduction activities during the five years prior to preparation of the strategy, perform a waste stream characterization, and provide an evaluation of source reduction options. The strategy must be periodically updated and submitted to DER upon request and must be provided to any processing or disposal facility seeking approval to handle the generator's waste. If such facility already has approval, the strategy must be provided to the facility when the strategy is updated. The facility, in turn, must submit the strategy to DER when the facility applies for approval to process or dispose of the generator's waste.[130]

3. Prepare, at least annually, a detailed physical and chemical analysis of each residual waste stream (including a determination that the waste is not hazardous), or in lieu of annually redoing the analysis, certify that the properties of the waste and the process by which it is generated have not changed.[131] The annual analysis is submitted to DER and any facility processing or disposing of the generator's waste and is also required to be prepared by the generator for applications by such facilities to process or dispose of the generator's waste.

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[126] 35 P.S. § 6018.610(9); 25 Pa. Code § 287.6.
[127] 25 Pa. Code §§ 273.501, 287.131-.134.
[128] 25 Pa. Code § 287.52.
[129] 25 Pa. Code § 287.53.
[130] 25 Pa. Code § 287.133.
[131] 25 Pa. Code § 287.54.

Small Quantity Generators: Small-quantity generators are any residual waste generator that generates less than the quantity that defines a large-quantity generator (i.e., less than 2,200 pounds of residual waste per generating location). These generators are not subject to the reporting, source reduction strategy, and waste analysis requirements described above; however, they must maintain records concerning the types and quantities of wastes generated, the dates the wastes were generated, disposed of, or processed on-site, and identifying information concerning transporters and off-site processing or disposal facilities. The records must be retained on-site for five years and be made available to DER upon request.[132]

All small-quantity generator requirements may be waived by DER, and the agency should be consulted as to which requirements have been waived.

Storage of Residual Waste

A permit is not necessary to store residual waste (except, as discussed above, certain off-site storage may constitute processing and require a residual waste permit, and storage of residual waste in surface impoundments may require a permit under the CSL); however, substantive standards apply to storage activities. These standards include limitations on mixing wastes; consistency with best engineering design and construction practices; regular inspection requirements; surface water run-on and runoff controls; prohibition of groundwater degradation; performance and design standards for containers, tanks, waste piles, and surface impoundments; and special construction, operational, and siting requirements for storage of incinerator ash, asbestos, and PCB wastes and coal ash.[133]

Surface impoundments storing residual waste must obtain a permit under the CSL. This is because storage of residual waste does not require a permit under the SWMA; however, the potential of such facilities to pollute the ground water is believed to be substantial enough to require a permit under the CSL. The application, design, and operating standards are found under the residual waste regulations. Cooling water and stormwater storage impoundments are not subject to these requirements, but may be subject to separate permitting requirements under, for example, the NPDES program.[134]

Finally, persons storing residual waste for lengthy periods must keep in mind the rebuttable presumption that storage in excess of one year constitutes disposal.[135]

Transportation

Transporters of residual waste do not need a license; however, they must transport their waste to permitted processing or disposal facilities and comply with the standards of the regulations.[136] Mixed loads of municipal and residual waste are subject to the municipal waste transportation regulations and mixtures of residual and hazardous waste may be subject to the hazardous waste regulations. See *Mixture and Derived - from Wastes* page 36. See also *Effect of Transporters* page 24 regarding signage requirements under Act

[132] 25 Pa. Code § 287.55.

[133] 25 Pa. Code Chapter 299.

[134] 25 Pa. Code § 299.141.

[135] 35 P.S. § 6018.103; 25 Pa. Code § 287.1.

[136] 25 Pa. Code Chapter 299, Subchapter B.

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The residual waste transporter regulations include requirements regarding enclosure of wastes during transportation, limitations on storage in transportation vehicles, accident prevention and contingency planning, daily operating records, annual reports, spill reporting, and special requirements for asbestos, PCB wastes, and incinerator ash.

Processing and Disposal Facilities

Types of Facilities: The types of residual waste processing and disposal facilities generally correspond to the types of municipal waste processing and disposal facilities. The types of facilities are listed below with their corresponding regulatory chapters in the residual waste regulations:

- Landfills (Chapter 288)
- Disposal impoundments (Chapter 289)
- Land application (Chapter 291)
- Transfer facilities (Chapter 293)
- Composting facilities (Chapter 295)
- Incinerators and other processing facilities (Chapter 297)

Since construction and demolition debris is a crossover waste, which is regulated as a municipal waste regardless of its source, there are no separate construction/demolition debris landfill regulations for residual waste.

While the regulations governing the types of facilities described above are generally similar to the regulations governing comparable types of municipal waste facilities, a departure with respect to landfills and surface impoundments is worth noting. Whereas under the municipal waste regulations, the design standards recognize only one basic design, i.e., a double liner with leachate collection, the residual waste regulations contemplate several different designs, depending upon the character of the wastes intended to be disposed of at the facility–the more likely that residual waste is to leach contaminants to the ground water, the more rigorous the design requirements applicable to a facility in which it will be disposed.

Thus, for residual waste landfills, in addition to the double liner/leachate collection system design (referred to in the regulations as a Class I landfill), the regulations also recognize a single liner/leachate collection system design (Class II) and an unlined design (Class III). For surface impoundments, the regulations provide for a double liner/leachate collection system design (Class I) and a single liner/leachate collection system design (Class II). The regulations applicable to each design specify the maximum concentrations of waste leachate constituents that will qualify waste to be deposited in the facility.[137]

Finally, municipal waste landfills that also accept residual waste are regulated under the municipal waste regulations.[138]

Permits: All residual waste processing and disposal facilities, with exceptions noted

[137] *See* 25 Pa. Code Chapters 288 and 289.

[138] *See* 25 Pa. Code, Chapter 271, Subchapter G.

below, are required to obtain a permit from DER. The obligation to obtain a permit can be satisfied in one of three ways–by qualifying for a permit-by-rule (the facility is deemed to have a permit without going through a permit application process provided it meets certain conditions in the regulations), by obtaining or qualifying under a general permit, or by obtaining an individual permit. The exclusions, permit requirements and transition scheme for repermitting and unpermitted facilities are described below.

Exclusions–The processing or disposal of certain residual wastes is excluded from the residual waste permitting requirements. The primary exclusions are as follows:

- Agricultural waste produced in the course of normal farming operations, provided that the waste is not hazardous.[139]
- Food processing waste used in the course of normal farming operations if the waste is not hazardous and if it complies with the operating requirements for land application facilities.[140]
- Beneficial use of coal ash.[141]
- Certain wastes (including slag) generated by non-coal surface mining regulated under a non-coal surface mining permit.[142]
- Certain oil and gas waste management facilities regulated under the Oil and Gas Act.[143]
- Low-level radioactive waste.[144]
- Crossover wastes regulated under the municipal waste regulations.[145]
- Clean fill including uncontaminated soil, rock, stone, gravel, brick, block, concrete, used asphalt, and waste from land clearing, grubbing, and excavation (trees, stumps, and vegetative material).[146]
- Remediation at the site of a spill, release, fire, accident, or other unplanned event unless the area is within a permitted area or area for which a permit application is pending.[147]

Permit-by-rule–A permit-by-rule allows residual wastes to be processed or disposed of in certain specified ways without the need to obtain a facility-specific permit as long as the facility complies with the limited requirements set forth in the permit-by-rule regulations. Facilities that are subject to a permit-by-rule are generally not subject to the design and operating requirements set forth in the regulations for facilities that must obtain individual permits.

Among the types of facilities that are eligible for a permit-by-rule are the following:

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[139] 35 Pa. Code § 6018.501; 25 Pa. Code § 287.101(b)(1).
[140] 35 Pa. Code § 6018.501; 25 Pa. Code § 287.101(b)(2).
[141] 25 Pa. Code § 287.101(b)(3).
[142] 25 Pa. Code § 287.2(e).
[143] 25 Pa. Code § 287.2(g).
[144] 25 Pa. Code § 287.2(h).
[145] 25 Pa. Code § 287.101(b)(5).
[146] 25 Pa. Code § 287.101(b)(6).
[147] 25 Pa. Code § 287.101(d).

- Captive processing facility (a facility that processes, by bulk or volume reduction, wastes generated solely by the operator at the site where some or all of the wastes are generated).[148]
- Wastewater treatment facilities permitted by DER under the CSL, which discharge under an NPDES permit or to a publicly-owned treatment works.[149]
- Facilities that collect used oil for recycling (e.g., gasoline service stations).[150]
- Small on-site residual waste incinerators exempt from permitting under the Air Pollution Control Act.[151]
- Beneficial uses approved by DER before the residual waste regulations went into effect (July 4, 1992).[152]
- Facilities that burn waste oil for energy recovery if the oil is not hazardous waste and does not contain greater than 1,000 ppm of total halides and meets certain minimum design and recovery standards.[153]
- Mechanical processing facilities that process by mechanical or manual sizing or separation for prompt off-site reuse.[154]

These facilities are subject to a number of conditions such as the general residual waste storage and transportation requirements; compliance with other permits; maintenance of an approved preparedness, prevention, and contingency plan; limited record-keeping requirements; and, for certain facilities, submission of a written notice to DER identifying the facility and describing the facility's operations. The regulations should be consulted for the specific eligibility criteria and operating conditions for each permit-by-rule facility.

General Permits/Beneficial Uses–The general permit is a mechanism for authorizing certain beneficial uses or processing activities to prepare wastes for beneficial use on a regional or statewide basis.[155] An individual operator may apply for a general permit or a general permit may be issued at the initiative of DER. Other operators who wish to operate under the permit may notify DER during the application process (notice of applications is given in the *Pennsylvania Bulletin*) and, upon issuance of the general permit, will be qualified to operate under the permit. In addition, once issued, a general permit is available to other operators using or handling the same waste for the same purpose upon registration with DER or upon issuance of a determination of applicability by DER.

Beneficial uses or processing activities that could be covered by a general permit involve wastes that (1) are used or processed in the same or substantially similar manner, (2) are generated by the same or substantially similar operations and have the same or substantially similar physical and chemical characteristics, (3) will not harm public health, welfare,

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[148] 25 Pa. Code § 287.102(b).
[149] 25 Pa. Code § 287.102(c).
[150] 25 Pa. Code § 287.102(d).
[151] 25 Pa. Code § 287.102(e).
[152] 25 Pa. Code § 287.102(f).
[153] 25 Pa. Code § 287.102(g).
[154] 25 Pa. Code § 287.102(h).
[155] 25 Pa. Code §§ 287.601-.666 (1992).

safety, or the environment, and (4) for beneficial uses, the use will not present a greater harm or threat of harm than the ingredient or product that it replaces. General permits cannot be used for disposal impoundments, landfills, or other fill activities and the placement of waste oil or asbestos on roads.

The regulations specify application requirements, application review procedures, and requirements for operators who desire to be included in a general permit either during the application process or after it has been issued. Permits will include requirements to submit periodic reports and analyses to notify DER of changes in the physical and chemical properties of the waste. DER has the authority to impose various conditions in general permits to protect public health and the environment.

Individual Permits and Operating Requirements–Any processing and disposal facility not qualifying for an exclusion, a permit-by-rule, or a general permit must apply for and obtain an individual permit. Permit application and processing, permit renewal and reissuance, permit modifications, and permit administration are very similar to the procedures under the municipal waste regulations described in *Processing and Disposal Facilities* page 18. In addition, the general operating requirements for residual waste facilities are comparable to those that apply to municipal waste facilities and, as with municipal waste facilities, each type of individual residual waste facility has specialized design and operating standards dealing with such matters as siting criteria, groundwater monitoring, assessment and abatement procedures, erosion control, leachate management, safety and emergency procedures, record-keeping and reporting, and closure and postclosure care.

Certain facility requirements do differ, such as insurance (there is no requirement for environmental impairment liability coverage).[156] In addition, certain permit application requirements for waste analysis apply to residual waste processing and disposal facilities (except for transfer facilities and exempt small-quantity generator waste) that do not apply to municipal waste facilities that accept only municipal waste.[157]

Transition Scheme–In order to provide for the efficient repermitting or permitting of all previously unpermitted residual waste facilities that received waste after July 4, 1992 (the effective date of the comprehensive revision to the residual waste regulations), the regulations include a transition scheme under which all such facilities must either apply for and receive a permit or submit a closure plan and close in accordance with a schedule set forth in the regulations. The schedule envisions the permitting or closure of all unpermitted facilities within three years and the repermitting of all permitted facilities within five years. A special set of transition rules applies to storage or disposal impoundments.

Facilities that stopped receiving waste prior to July 4, 1992, are not subject to the transition requirements which impliedly places them outside the ambit of the permitting and operation requirements of the residual waste regulations; however, DER retains the authority to take enforcement action against such facilities for existing conditions which adversely affect or threaten the environment under the agency's general enforcement authority under the SWMA or other statutes such as the CSL or HSCA.

[156] 25 Pa. Code § 287.371-.375.

[157] 25 Pa. Code § 287.131-.134.

During the transition period, facility operations are generally governed by the same requirements that apply to new facilities, except for certain landfill and surface impoundment design standards. Unpermitted facilities are unable to alter the type and average daily volume of wastes accepted and the facility capacity during the transition period. Permitted facilities cannot exceed permitted disposal capacity but they can increase average daily volume and processing or disposal method or technology with DER approval.

A sizeable number of residual waste processing and disposal facilities were unpermitted at the time the July 4, 1992, regulations went into effect. Although unpermitted facilities may continue to operate during the transition period (as distinguished from the transition scheme under the municipal waste regulations, which did not recognize a similar flexibility for unpermitted facilities), DER retains the authority to take any necessary enforcement action with respect to these facilities (as well as unpermitted facilities that ceased operating prior to July 4, 1992).

Hazardous Waste

Overview

State and Federal Regulatory Authority

The federal hazardous waste regulatory program developed under Subtitle C of RCRA served as the model for and catalyst of the Pennsylvania program of hazardous waste regulation under the SWMA. As discussed at *RCRA Subtitle C* page 11, EPA, beginning in 1980, has developed a comprehensive and extremely complex program defining what constitutes a hazardous waste and regulating generators, transporters, and hazardous waste treatment, storage, and disposal activities. Pennsylvania has developed a state hazardous waste regulatory program comparable to the EPA requirements adopted under RCRA and, under RCRA's state authorization provisions, has received authority from EPA to implement these requirements in lieu of EPA implementation of the corresponding federal RCRA regulations.

The Pennsylvania regulations governing hazardous waste are codified at 25 Pa. Code Chapters 260-270. The coverage and numbering of each chapter generally corresponds to the federal regulations found at 40 C.F.R. Parts 260-270.

Although Pennsylvania does have RCRA final authorization, it has yet to develop regulations corresponding to many of the regulations developed by EPA under HSWA, the 1984 amendments to RCRA (see *RCRA Subtitle C* page 11) or where it has developed such regulations it has yet to receive approval of the new regulations by EPA. Consequently, EPA will continue to have authority to implement these requirements in Pennsylvania until Pennsylvania obtains final HSWA authorization. As a result, the regulated community must be familiar with both the state RCRA requirements and the federal HSWA requirements. Several of the more important HSWA requirements will be briefly discussed at Regulation of Hazardous Waste Activities page 38, following a description of the basic state hazardous waste regulatory program.

With this combination of state and federal regulatory requirements, hazardous waste regulation is among the most detailed and complex of all the environmental regulatory programs.

Types of Regulated Activity/Strict Liability

Article IV of the SWMA contains the basic outlines of the Commonwealth's hazardous waste regulatory program.[158] This program places a much heavier emphasis on regulation of waste generators, recycling, and reclamation than is found in the municipal and residual waste regulatory programs. Permits are required for facilities that treat and dispose of hazardous wastes, and, unlike municipal and residual waste, permits are required for storage facilities and licenses are required for hazardous waste transporters.[159] The SWMA also contains, under Article I, a mechanism to "suspend and supersede" local laws, including zoning ordinances that would "preclude or prohibit" the siting of a hazardous waste treatment or disposal facility through a procedure for the granting of a certificate of public necessity by the EQB.[160]

In addition to outlining and providing the authority to develop regulations to implement these basic requirements, the SWMA provides that the storage, transportation, treatment, and disposal of hazardous waste make any person carrying on these activities subject to liability for harm regardless of the level of care followed by the person–a classic statement of strict liability.[161] Since all waste handling activities–municipal and residual as well as hazardous–are subject to the strict liability provisions of the general enforcement requirements of the SWMA under Article VI, this statement of strict liability is presumably intended to set forth a standard applicable to private tort liability. At least one court has noted that the standard does not apply to generators.[162]

What is Hazardous Waste?

As noted in this chapter in connection with defining waste generally, the statutory definition of hazardous waste is not particularly helpful in determining what wastes are regulated as hazardous wastes; however, the regulations identifying hazardous wastes, which are found in Chapter 261 of Title 25 of the Pennsylvania Code, define in detail which wastes are regulated as hazardous according to whether they either (1) meet certain identified hazardous characteristics, (2) are included on various lists of predetermined hazardous wastes contained in the regulations, or (3) are a mixture of solid waste and one or more listed hazardous wastes or are derived from a listed hazardous waste.[163]

The following sections briefly summarize the basic concepts involved in determining whether a particular waste is hazardous; however, in addition to these specific requirements, DER retains the authority to regulate other wastes as hazardous on a case-by-case basis, if it determines that the waste poses a substantial present or potential threat to human health or the environment.[164]

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[158] *See*, especially, 35 P.S. §§ 6018.401(a), 6018.403.

[159] 35 P.S. § 6018.401(a).

[160] 35 P.S. § 6018.105(f), (g).

[161] 35 P.S. § 6018.401(b).

[162] *See* City of Philadelphia v. Stepan Chemical Co., 544 F. Supp. 1135 (E.D. Pa. 1982).

[163] 25 Pa. Code § 261.3.

[164] 35 P.S. § 6018.103; 25 Pa. Code § 261.1(f).

Solid Wastes

Before a decision can be made as to whether a material is a hazardous waste, it must first be determined that the material is a solid waste. The definition of solid waste in the hazardous waste regulations is the same as the definition in the SWMA, i.e., solid waste is defined as "waste," including municipal, residual, and hazardous waste as well as solid, semi-solid, liquid, and contained gaseous materials.

DER has adopted a similar definition of waste under the hazardous waste regulations as under the residual waste regulations. See *What is Waste?* page 2. Thus, waste includes any by-product, expended material that is not a co-product, material that is abandoned or disposed, and contaminated soil, water or other residues. It does not include materials that are directly reused or recycled in the manufacturing process by the generator. The definition of co-product parallels the co-product definition under the residual waste regulations and affords a significant opportunity to avoid regulation as a hazardous waste for certain product-like materials.

Characteristic Wastes

A solid waste may be classified as hazardous if it possesses one of the four hazardous waste characteristics specified in the regulations:

- Ignitability, which is determined by whether the waste meets a flash point test set forth in the regulations;
- Reactivity, which is determined by the stability or explosivity of the waste or whether it reacts violently or generates toxic gases, vapors, or fumes when mixed with water;
- Corrosivity, which applies to aqueous wastes with extreme pH characteristics (less than or equal to 2, or greater than or equal to 12.5) or liquid wastes that are corrosive to steel in excess of the regulatory standard; and
- Toxicity, which is determined according to a leaching test known as the toxicity characteristic leaching procedure (TCLP) that is applied to determine whether the concentrations of various inorganic (primarily metals) and organic compounds in leachate generated from the waste exceed specified regulatory levels.[165]

Listed Wastes

A solid waste may also be classified as hazardous if it appears on any one of several lists developed by EPA and incorporated by reference in the Pennsylvania regulations. These lists, which are amended from time to time, are as follows:

- Hazardous wastes from non-specific sources (examples of such wastes include certain specified spent halogenated solvents used in degreasing, including tetrachloroethylene, trichloroethylene, and carbon tetrachloride). As indicated by the name of the list, the particular industry source of the waste is not critical.
- Hazardous wastes from specific sources (examples of such wastes include emission

[165] 25 Pa. Code Chapter 261, Subchapter C.

control dust and sludge from the primary production of steel in electric furnaces). As the name of the list indicates, the industry source of the waste is critical to its identification.

- Discarded commercial chemical products, off-specification species, discarded containers which held such products or species, and spill residues from such products or species (examples of such materials include acetone and benzene). Such materials, when discarded or intended to be discarded in their pure or off-specification ("off-spec") form, are hazardous wastes; however, a material that merely contains one of these chemicals, e.g., gasoline, which contains benzene, is not a hazardous waste when discarded simply because it contains one of these materials. Rather, the material would only be hazardous waste if the material itself was a listed waste or met one of the hazardous characteristics.

When EPA developed the lists of hazardous wastes, it based its categorical determinations on the general hazardous characteristics of the wastes in a particular listed category. It also recognized that there may be specific wastes that are generated by a particular generator, which technically fall within the listed category, but when chemically analyzed do not contain the constituents or concentrations of constituents on which EPA based its initial categorical listing determination. To deal with such situations, EPA and the EQB, when it adopted the Pennsylvania RCRA program, adopted procedures whereby, upon application of the individual generator, the EPA and DER may approve a "delisting" of the waste, which would enable the generator and all others handling the waste to treat it as non-hazardous waste.[166] In practice, a waste must be delisted by both EPA and DER in order for it to fall outside the hazardous waste system. The procedures for delisting have proven extremely cumbersome and time consuming.

When considering whether a material is a hazardous waste, it is important to distinguish hazardous wastes from materials that are listed hazardous substances under CERCLA, HSCA and other federal and state laws. Generally, the term "hazardous substance" is much broader than "hazardous waste" and usually includes materials that are hazardous whether or not they are wastes. For example, under CERCLA, liability for the cost of cleaning up a leaking dump site is dependent upon whether the generator of a material that contains a hazardous substance arranged for the disposal of the material at the site. The reference list for hazardous substances is a lengthy list promulgated under CERCLA which includes all hazardous wastes as well as many different chemical substances.

Mixture and Derived-from Wastes

There are two other means by which a waste may be deemed hazardous waste even though it does not meet a hazardous characteristic or is not found on one of the lists of hazardous wastes. If a listed waste is mixed with a solid waste of any kind, the mixture is a hazardous waste.[167] Mixtures of listed wastes are eligible for delisting. In addition, if a hazardous waste is generated from the treatment, storage, or disposal of a hazardous waste (including sludge, spill residue, ash, emission coal dust, or leachate, but not precipitation

[166] 25 Pa. Code § 260.22.

[167] 25 Pa. Code § 261.3(a)(2).

runoff), the resultant waste–usually referred to as a "derived-from" waste–is deemed to be a hazardous waste unless the initial waste or wastes were not listed wastes and the derived-from waste does not meet one of the four characteristics.[168] If a waste from which the resulting waste is derived is a listed waste, the derived-from waste is considered to be hazardous unless it is delisted.

Exclusions

The hazardous waste regulations contain a lengthy list of materials that, even though they would otherwise meet the strict definitions of hazardous waste described above, are nevertheless excluded from being regulated as hazardous wastes for a variety of reasons.[169] This list and modifications to the parallel list of exclusions in the federal regulations[170] made after January 16, 1993 (which are incorporated by reference in the state list) should always be consulted before making a decision as to whether a particular waste is regulated as a hazardous waste.

Among the more important solid wastes that appear on the list of excluded wastes are the following:

- domestic sewage, including sewage mixed with other wastes that pass through a sewer to a publicly owned treatment works for treatment,
- point source discharges of industrial wastewaters subject to NPDES permitting (this does not exempt the wastewater while it is being collected, stored, or treated or any sludge generated during treatment),
- household hazardous waste,
- certain mining and oil exploration wastes,
- irrigation return flows,
- fly and bottom ash, slag and flue gas emission control dust from combustion of coal or fossil fuels,
- cement kiln dust waste,
- samples obtained for testing purposes that meet certain specified conditions,
- scrap metal that is recycled, and
- certain samples taken for testing or treatability study purposes.

Recycled and Reclaimed Hazardous Waste

With limited exceptions, hazardous waste destined for recycling or reclamation (other than recycling on-site directly back into a manufacturing process) and hazardous waste recycling or reclamation facilities are subject to the full range of regulatory requirements that are discussed below applicable to generators, transporters, and treatment, storage, and disposal facilities.[171] In this regard, Pennsylvania's approach is more stringent than the federal approach which deals with some hazardous waste recycling activities on a less restrictive basis.

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[168] 25 Pa. Code § 261.3(c).

[169] 25 Pa. Code § 261.4.

[170] 40 C.F.R. § 261.4 (1993).

[171] 25 Pa. Code § 261.6(a).

Waste Oil

The hazardous waste regulations separately define waste oil and hazardous waste oil. Waste oil is defined as "oil refined from crude oil or synthetically produced, used and as a result of the use, contaminated by physical or chemical impurities."[172] Waste oil which exhibits a hazardous waste characteristic, is a listed hazardous waste or contains greater than 1,000 parts per million of total halogens is a hazardous waste oil; however, if it is hazardous only because it meets a characteristic and is destined to be recycled or reused other than by burning, it is regulated under the residual waste regulations. Finally, waste oil not meeting any of these criteria would also be regulated as a residual waste.

Regulation of Hazardous Waste Activities

Once a determination is made that a particular waste is hazardous, the next inquiry is what types of requirements apply to the management of the waste. This will depend upon the nature of the activity, be it generation, transportation, treatment, storage, or disposal. Further, in addition to the standard requirements that apply to each of these categories of activities, there are a number of exceptions that relieve certain classes of management activities within a category from some or most requirements that would otherwise apply (for example, the relaxed handling requirements that apply to generators of small quantities of hazardous wastes and the relaxed permitting requirements that apply to elementary neutralization treatment units). Finally, special requirements apply to certain recycling and reclamation activities.

The specific management requirements that apply to each of the different categories of hazardous waste activities are extremely detailed and complex and a comprehensive recital of these requirements is beyond the scope of this chapter. Instead, what follows is a summary of the principal types of requirements applicable to each of the major categories of hazardous waste management activities and a description of several of the more important categories of exceptions to the general requirements. When considering these requirements, although most are found in the Pennsylvania hazardous waste regulations, several important requirements are also imposed by EPA under HSWA, and regulations adopted by EPA under HSWA, which apply in Pennsylvania because the Commonwealth has not received authorization from EPA to implement its requirements in place of the EPA HSWA requirements (see *State and Federal Regulatory Authority* page 33).

Notification of Hazardous Waste Activity and Identification Numbers

Any person, with certain exceptions, who generates, transports, treats, stores, or disposes of hazardous waste within Pennsylvania must file with DER a notification form describing the type of activity and the waste.[173] If the type of activity or the waste being handled changes, an amended form must be filed. A similar requirement is contained in RCRA and a form filed with EPA under RCRA will satisfy the Pennsylvania requirement. When DER (or EPA) receives the notification, it will assign the notifying party a unique hazardous waste identification number that is used as a tracking device in most documents required

[172] 25 Pa. Code § 260.2.

[173] 25 Pa. Code § 261.41.

to be prepared and filed under the hazardous waste program.

Generators

The regulations governing generators of hazardous waste are found principally in Chapter 262 of Title 25 of the Pennsylvania Code. A generator is defined as "a person or municipality who produces or creates hazardous waste identified or listed under Chapter 261."[173] Generators with more than one site are deemed a separate generator for each location. This means that a separate notification form must be filed and a separate identification number must be obtained for each facility. Generators do not have to obtain a permit unless they engage in treatment, storage, or disposal activities that are subject to the permitting requirements. Owners or operators of treatment, storage, and disposal facilities are also subject to the generator requirements if they initiate shipments of hazardous waste.[175]

Large- and Small-Quantity Generators: The Pennsylvania regulations divide generators of hazardous waste into two general categories–large-quantity and small-quantity generators–with less restrictive requirements applicable to the latter. Small-quantity generators are those generators that generate in a calendar month less than 1,000 kilograms of hazardous waste, whereas large-quantity generators exceed this threshold, although for certain acutely hazardous wastes or spill debris, the threshold is set at 1 kilogram or 100 kilograms, respectively.[176]

This two-layer regulatory structure was complicated by the adoption by EPA of regulations under HSWA that created a category of "conditionally exempt small-quantity generators" who fall below 100 kilograms per month (the acutely hazardous thresholds were unaffected).[177] This change extends most of the large-quantity generator requirements to all generators who generate more than 100 kilograms per month and makes generators who fall below 100 kilograms exempt from most generator requirements. A similar (though not identical) structure is now applicable under the Pennsylvania program.[178] Because Pennsylvania does not yet have federal authorization for these requirements, both the state and federal requirements must be satisfied (for example, Pennsylvania does not recognize the more liberal federal storage accumulation rules applicable to generators of less than 1,000 kilograms per month).[179]

Under Pennsylvania's current regulations, small-quantity generators (now 100-1,000 kilograms per month) are required to notify DER if they exceed the large-quantity threshold and large-quantity generators must notify if their status changes to small-quantity. Presumably, a large-quantity generator may elect not to notify if its generation pattern qualifies it for small-quantity status if it chooses to continue to comply with the large-quantity requirements. It is not clear from the Pennsylvania regulations whether a small-quantity generator must also file a notification of hazardous waste activity under the general

[174] 25 Pa. Code § 260.2.
[175] 25 Pa. Code § 262.10(d).
[176] 25 Pa. Code § 261.5(a), (b).
[177] 40 C.F.R. § 261.5.
[178] 25 Pa. Code § 261.5(k)(1).
[179] 40 C.F.R. § 262.34(a)-(b) (1993).

notification regulations discussed in *Notification of Hazardous Waste Activity and Identification Numbers* page 38.

Under the Pennsylvania regulations, small-quantity generators may store wastes on-site up to the large-quantity thresholds without a permit. Small-quantity generator wastes must be treated or disposed of at (1) a permitted on-site or off-site hazardous waste management facility in Pennsylvania, (2) a permitted municipal or residual waste facility in Pennsylvania that has written approval from DER to accept the waste, (3) a permitted municipal, industrial, or hazardous waste facility outside Pennsylvania that is authorized to accept the waste and is located in a state with a hazardous waste program approved by EPA, or (4) a facility that beneficially uses, recycles, or reclaims the waste.[180]

Otherwise, small-quantity generators are exempt from the Pennsylvania large-quantity generator regulations except for the requirement to determine if their waste is hazardous, manifest requirements, and certain additional operating requirements that apply to generators of 100 to 1,000 kilograms per month. As noted above, however, they must also comply with any more stringent federal HSWA requirements, which effectively subject those generators in the 100–1,000 kilogram per month category to many large-quantity generator requirements.[181]

A final note of caution is offered with respect to calculating the amount of waste generated for purposes of determining which generator requirements apply. The rules concerning which wastes are included in the calculation are rather complex and care must be taken to ensure that all appropriate wastes have been considered.

Generator Management Requirements: The basic management requirements of concern to a large-quantity generator are the requirements to:

- determine whether the wastes that are being generated are hazardous,
- obtain an identification number,
- store waste in accordance with the waste accumulation standards,
- ensure that the facility to which the generator intends to ship its waste is approved to accept it,
- use only a licensed transporter to transport its waste,
- use and correctly complete and certify the proper shipping manifest (which must accompany the waste to its final destination) and comply with applicable record-keeping requirements,
- perform the necessary packing, labelling, and marking of its waste and placarding of the transportation vehicles in accordance with U.S. Department of Transportation regulations,
- comply with record-keeping and applicable quarterly or annual reporting requirements,
- follow the hazardous waste spill reporting requirements and develop and implement a contingency plan approved by DER to minimize and abate discharges or spills, and

[180] 25 Pa. Code § 261.5(g).

[181] 25 Pa. Code §§ 261.5(k), 262.10(a); 40 C.F.R. § 261.5 and Part 262.

- establish and follow applicable federal waste minimization and state source reduction requirements.

The regulations also contain special requirements applicable to imports and exports of hazardous waste.

A generator may store hazardous waste for up to 90 days without a permit if the waste accumulation requirements are followed; however, if waste is stored for more than 90 days, a storage facility permit is required. As with other types of solid waste, hazardous waste accumulated for more than one year is presumed to be disposed of and a disposal permit would be required unless the presumption can be overcome by clear and convincing evidence. As mentioned previously, less restrictive storage requirements apply to generators who generate between 100 and 1,000 kilograms per month (or lesser quantities of acute hazardous waste), and for these generators no storage permit is required unless the accumulated amount exceeds 1,000 kilograms (or the lesser thresholds for acute wastes). If this threshold is exceeded, the large-quantity generator storage rules apply to all amounts in excess of the threshold.

In addition to the above requirements that are part of the basic Pennsylvania program (and the regulation of conditionally exempt small-quantity generators by EPA), generators (except small-quantity generators) also must be aware of and comply with the land disposal ban requirements implemented by EPA under HSWA, which restrict land disposal of hazardous wastes, limit the storage of such wastes, impose waste analysis and record-keeping requirements, and require the generator to furnish notice to off-site storage or treatment facilities and certification to off-site disposal facilities concerning compliance with applicable land disposal ban requirements.[182] The land ban program is described generally under *Land Disposal Restrictions* page 47.

Finally, generators may be required to pay a management fee for disposal under HSCA.[183]

Transporters

Unlike transporters of municipal and residual waste, transporters of hazardous waste are required by the SWMA to be licensed and, as with other types of hazardous waste activities, they must also obtain an identification number (except in certain emergency situations).[184] Licenses must be renewed every two years and licensees must submit a collateral bond and certificate evidencing public liability insurance coverage.

The primary management requirements imposed on transporters are as follows:

- ensure that the requisite shipping manifest is received from the generator and accompanies the waste to its destination,
- furnish the requisite number of signed copies of the manifest to the generator and to any other transporter or the designated facility and comply with its terms and applicable record-keeping requirements,

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[182] *See generally* 40 C.F.R. § 268.7-.9.

[183] 35 P.S. § 6020.903(c)(2).

[184] 25 Pa. Code § 263.11, - .13.

- ensure that the shipment complies with applicable United States Department of Transportation requirements,
- develop and implement a transporter contingency plan approved by DER and comply with hazardous waste discharge and spill requirements,
- provide personnel safety training and maintain specified safety equipment, and
- acquire the necessary collateral bond and liability insurance.[185]

Transporters may store wastes in-transit for up to five days without a storage facility permit; however, if a transporter alters the composition of hazardous waste or stores it in a manner other than normal in-transit storage, it will be subject to the permitting and operation requirements applicable to treatment, storage, or disposal facilities. In addition, a transporter will be considered a generator if it blends or mixes different hazardous wastes and must comply with the generator requirements.[186]

Finally, transporters may be subject to signage requirements under Act 101 (see *Effect on Transporters* page 24) and transportation fees under HSCA.[187]

Treatment, Storage, and Disposal Facilities

There are four general categories of requirements applicable to hazardous waste treatment, storage, and disposal facilities (TSDFs): (1) facility siting criteria, (2) permitting requirements, (3) operating standards, and (4) corrective action requirements.

Facility Siting Criteria: Under the SWMA, DER is required to develop, prepare, and modify a Hazardous Waste Facilities Plan and the EQB is given the authority to adopt the plan.[188] Major elements of the plan are the criteria and standards for siting hazardous waste treatment and disposal (but not storage) facilities, which are codified in Chapter 269 of Title 25 of the Pennsylvania Code. These criteria must be satisfied as a condition to issuance of a permit for a hazardous waste treatment or disposal (but not storage) facility.

The criteria are divided into two phases. Phase I sets forth a number of "exclusionary" environmental factors including wetlands, flood hazard areas, water supplies, agricultural areas, etc., the presence of which within prescribed distances would preclude the siting of a hazardous waste treatment or disposal facility. The Phase I criteria do not apply to facilities that were in existence when they were adopted or modifications within an existing site.

The Phase II criteria include a series of environmental, social, and economic factors such as geology, water supply, soil types, zoning, transportation, nearby structures, effect on the local economy and infrastructure and a number of natural, scenic, historic, and aesthetic considerations that may require further assessment as to the impact of the facility or mitigation measures by the facility applicant.

In addition to these siting criteria, a complex set of incentives to host municipalities (including host municipality benefit fees, inspection rights, access to information and facility water supply sampling obligations) are imposed under HSCA to encourage and mitigate

[185] 25 Pa. Code §§ 263.20-.27.

[186] 25 Pa. Code §§ 263.23, 264.1(c)(9), 263.30(g).

[187] 35 P.S. § 6020.903(b).

[188] 35 P.S. §§ 6018.507(a), 6018.105(d).

the effects of siting hazardous waste facilities in affected municipalities.[189] HSCA also provides for a DER hazardous waste facility siting team and a Hazardous Waste Facility Siting Commission to facilitate the siting of commercial hazardous waste facilities in the Commonwealth and meet the hazardous waste capacity assurance requirements under CERCLA.[190]

Hazardous Waste Permit Scheme and Interim Status: With certain exceptions, any person or municipality who owns or operates a hazardous waste treatment, storage, or disposal facility must first obtain a permit from DER.[191] In addition, certain disposal facilities (surface impoundments, waste piles, land treatment and landfill facilities) subject to postclosure ground water monitoring requirements must obtain postclosure permits.[192] Finally, those facilities that are subject to the HSWA corrective action requirements must also obtain a hazardous waste corrective action permit from EPA.

The basic DER hazardous waste permit application consists of two parts-Part A and Part B. Part A contains general information concerning the facility's location, activities to be conducted, and wastes to be handled at the facility, permits required by the facility, and basic identifying information concerning the operator.[193] Part B contains detailed plans describing the operations of the facility and how those operations comply with the detailed operating requirements in the regulations, maps, and design drawings for the site and facilities, and construction and manufacturing design calculations, an environmental assessment report, and a compliance history of the site owner and operator.[194]

In order to avoid the immediate closure and allow for the efficient permitting of facilities in existence as of the effective date of the DER permitting regulations (November 19, 1980), such facilities were granted "interim status," i.e., they were allowed to continue to operate while they applied for a hazardous waste permit as long as they timely filed the requisite notification of hazardous waste activity and permit applications and complied with the interim status operating requirements while DER processed their permit applications.[195] DER had planned to take final action on all permit applications for these original interim status facilities by November, 1992, under deadlines established for termination of interim status under HSWA.

Interim status is now available generally to any person who owns or operates a facility in existence on the effective date of a statutory or regulatory change that requires the facility to obtain a hazardous waste permit if (1) the requisite notification and permit application are filed within the times provided in the regulations, and (2) the facility complies with the interim status operating requirements pending action on the permit application.

In addition to these DER permitting requirements, under HSWA, all hazardous waste permits must contain requirements for corrective actions to be taken by the permittee for all releases of hazardous wastes or hazardous constituents from solid waste management

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[189] 35 P.S. §§ 6020.304-.308.
[190] 35 P.S. §§ 6020.309-.313.
[191] 25 Pa. Code § 270.1(a).
[192] 25 Pa. Code § 264.1(a)(2).
[193] 25 Pa. Code § 270.12.
[194] 25 Pa. Code § 265.442.
[195] 25 Pa. Code §§ 265.431, 270.3.

units (SWMUs) located at the facility. An SWMU is any area of a permitted facility from which hazardous wastes or hazardous constituents are released regardless of when waste was placed in the SWMU (including prior to the enactment of RCRA or SWMA) and may have nothing to do with the active hazardous waste management operations that are the subject of the DER permit.[196]

Although there is no directly comparable state corrective action authority under the Pennsylvania hazardous waste regulatory program, authority for the state to require corrective action with respect to releases from SWMUs exists generally under the SWMA as well as the CSL, HSCA, and the Air Pollution Control Act.

Exceptions to Permit Scheme: Certain exceptions to this general permitting scheme exist for special circumstances.[197] Among the more significant of these exceptions are the following:

- generators storing wastes for less than the specified accumulation periods (see *Generators* page 39),
- TSDFs handling only exempt small-quantity generator waste (although written approval to accept the waste must be obtained),
- totally enclosed treatment facilities that are directly connected to an industrial production process and constructed and operated in a manner that prevents a release during treatment,
- activities carried out to immediately contain or treat a spill,
- captive elementary neutralization units or wastewater treatment units that are subject to a permit-by-rule, provided the permit-by-rule requirements are complied with,
- in-transit storage for 5 days or less by a licensed transporter,
- publicly owned treatment works that are subject to a permit-by-rule, provided the permit-by-rule requirements are complied with, and
- certain recycling and reclamation activities (discussed below).

Recycling and Reclamation Permit-by-Rule: In the January 16, 1993, amendments to the hazardous waste regulations, the EQB made significant changes to the manner in which facilities engaged in hazardous waste recycling and reclamation activities are regulated. Of primary importance is the requirement that these facilities are generally required to obtain permits as treatment or storage facilities or qualify for one of the following reclamation or recycling facility permits-by-rule set forth in the regulations:

- battery manufacturing facilities reclaiming spent lead acid batteries,
- facilities that store spent lead acid batteries before reclaiming them,
- petroleum refining facilities refining hazardous waste along with normal process streams to produce petroleum products,

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[196] *See generally* 42 U.S.C. § 6624(u); 40 C.F.R. Part 264, Subpart S; Corrective Action for Solid Waste Management Units (SWMUs) at Hazerdous Waste Management Facilities, 55 Fed. Reg. 30798 (proposed July 27, 1990).

[197] *See generally* 25 Pa. Code § 264.1(c).

- facilities that reclaim waste on-site at the site of generation (or in some limited circumstances also reclaim waste from off-site)
- facilities that reclaim hazardous wastes listed under 25 Pa. Code §261.33 (relating to commercial chemical products and off-spec species),
- facilities that speculatively accumulate hazardous waste,
- facilities that use or reuse hazardous wastes in an industrial process to make a product or co-product, if the wastes are not being reclaimed,
- facilities that use or reuse hazardous wastes as effective substitutes for products or co-products.[198]

The regulations contain various preconditions that must be met in order to be entitled to permit-by-rule status, including, in some instances, notification to and approval by DER. They also include various operational requirements that must be satisfied in order to retain permit-by-rule status. Variances may be obtained from one or more of the specific requirements of the permit-by-rule standards in appropriate circumstances.[199]

Finally, the following activities are expressly made ineligible for these permits-by-rule:

- recycling hazardous wastes in a manner constituting disposal or to produce products or co-products applied to land,
- burning hazardous wastes for energy recovery or using them in a fuel,
- recycling or reclaiming certain hazardous wastes defined by EPA as inherently waste-like.[200]

Regulation of these activities is discussed at the end of the following section on *Facility Standards.*

Facility Standards: The regulations governing hazardous waste facility operations contain general requirements that apply to all facilities and specific requirements that deal with issues specific to the design or operation of particular types of facilities (e.g., landfills, incinerators, etc.). In addition, separate operating standards apply to permitted facilities and facilities operating under interim status, with the latter generally being somewhat less restrictive.

The general types of facility standards include the following:

- Obtain a facility identification number,
- Comply with procedures to obtain DER approval to treat, store, or process new waste streams,
- Develop and follow a written waste analysis plan,
- Follow general and construction inspection procedures,

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[198] 25 Pa. Code § 261.6(a)(3), (4); 25 Pa. Code Chapter 266, Subchapters F-I.

[199] 25 Pa. Code § 264.1(d).

[200] 25 Pa. Code § 261.6(a)(5).

- Develop and implement a personnel training program,
- Follow precautions regarding reactive, ignitable, and incompatible wastes,
- Prepare for and take precautions to prevent fire, explosion, or discharge of wastes that would threaten human health or the environment, including the development and implementation of a preparedness, prevention, and contingency plan,
- For off-site TSDFs, accept only shipments of waste accompanied by a hazardous waste manifest, sign the manifest and return copies of the manifest to the transporter and generator, noting any significant discrepancies (such deficiencies must be reconciled before the waste is treated, stored, or disposed of at the facility),
- Maintain the requisite facility records including manifests and manifest discrepancies and operating records describing each shipment of waste, waste analyses, contingency plan incidents, inspection records, monitoring and testing analytical data, and closure and postclosure cost estimates,
- Make the requisite quarterly facility reports to DER,
- For landfills, surface impoundments and land treatment facilities, develop and implement the requisite ground water monitoring program,
- Develop and, upon cessation of operations, implement a closure plan, and for landfills or other disposal facilities at which wastes will remain after closure, a postclosure plan for ground water monitoring and facility care and maintenance and comply with postclosure limits on use of the property and deed notice requirements,
- Comply with financial assurance requirements, including general and environmental liability insurance for facility operations and bonding requirements covering the cost of closure and postclosure care (EPA may require additional financial assurance for corrective action).[201]

In addition to these standards, which apply to all facilities, the following types of activities and/or facilities are subject to facility-specific design and performance standards:

- use and management of containers,
- tank systems,
- surface impoundments,
- land treatment,
- landfills,
- incinerators,
- thermal treatment,
- chemical and biological treatment.[202]

The hazardous waste regulations also contain special standards applicable to certain hazardous waste management activities that do not qualify for the recycling or reclamation permits-by-rule discussed above but fall within the broad range of activities generally considered to be recycling or reclamation. These activities include management of the

[201] *See generally* 25 Pa. Code §§ 264.11-264.140; 25 Pa. Code §§ 265.11-265.145; 25 Pa. Code Chapter 267.
[202] *See generally* 25 Pa. Code §§ 264.171-264.353; 25 Pa. Code §§ 265.171-265.406.

following:

- Hazardous waste recycled in a manner constituting disposal (e.g., applied to land with or without being mixed with other substances). Most of the generator, transporter, storage and disposal facility requirements apply, including the requirement to obtain an individual facility permit.
- Hazardous waste burned for energy recovery (hazardous waste fuel) in industrial furnaces and boilers. These facilities must obtain a state air quality permit (or equivalent in Philadelphia County or Allegheny County) and meet the federal interim status requirements and limited state operating requirements pending receipt of a federal hazardous waste permit. A separate state hazardous waste permit is not required. With certain exceptions, hazardous waste having less than 8,000 BTUs per pound does not qualify under these standards and must meet the requirements for hazardous waste incineration. In addition to requirements for generators, transporters, storage facilities, and burners, these regulations also include standards applicable to marketers of hazardous waste fuels, i.e., persons who market the fuel directly to a burner or who receive waste from generators and distribute or produce, process, or blend fuels.
- Hazardous waste oil burned for energy recovery that is not regulated under the requirements applicable to incinerators or subject to the requirements applicable to hazardous waste fuel. As with hazardous waste fuel, these regulations include requirements applicable to generators, transporters, storage facilities, marketers, and burners. There are also regulations governing the blending or treatment of waste oil and setting constituent or "specification" levels for waste oil contaminants, below which management of the waste oil is subject only to very limited analysis and record-keeping requirements. Off-specification waste oil must be burned in industrial furnaces or boilers with state air quality permits (or the equivalent in Philadelphia County and Allegheny County).

Finally, under HSCA, operators of hazardous waste management facilities are subject to a management fee for hazardous waste stored, treated, or disposed of at the facility except for certain recycling activities and storage or treatment at the generator's site or a captive facility.[203]

Land Disposal Restrictions

Under HSWA, Congress prohibited the land disposal of hazardous waste in most instances unless (1) it could be demonstrated to EPA that there would be no migration of hazardous constituents from the disposal unit as long as the waste remained hazardous, or (2) the waste was first treated to standards set by EPA that would substantially diminish the toxicity of the waste and substantially reduce the likelihood of migration of hazardous constituents from the disposal unit.[204] These requirements are referred to as the land disposal restrictions (LDRs) or the land ban.

[203] 35 Pa. Code § 6020.903(c).

[204] 42 U.S.C. § 6924(d)-(m).

The LDRs apply to all hazardous wastes, including listed, characteristic, mixture and derived-from wastes, with limited exceptions. In some instances, EPA has specified treatment methods that must be used to treat a hazardous waste before it can be land disposed. In other instances, EPA has specified concentrations of hazardous constituents that must be achieved before the hazardous waste can be land disposed. Other requirements limit the storage of land-banned wastes.

The LDRs are extremely complex and a comprehensive description of the applicable requirements is beyond the scope of this chapter.[205]

Deed Notification

Under Section 405 of the SWMA, the grantor, in every deed for the conveyance of property on which hazardous waste has been or is being disposed by the grantor or to the grantor's actual knowledge, must include an acknowledgment describing the available information on the size and location of the area and nature of the wastes.[206] This requirement applies only to hazardous waste, not residual or municipal wastes, although a similar (and broader) deed notice requirement is contained under HSCA, which applies to hazardous substances.[207] Since such substances may be contained in municipal and residual wastes as well as hazardous wastes, the HSCA deed notice requirement tends to predominate in importance as compared to the SWMA requirement.

[205] *See generally* 40 C.F.R. Part 268.

[206] 35 P.S. § 6018.405.

[207] 35 P.S. § 6020.512.