RULES AND REGULATIONS

Title 25—ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

[25 PA CODE CHS. 250, 287—289, 291, 293, 295, 297 AND 299]

Residual Waste

The Environmental Quality Board (Board) by this order amends § 250.9 and Chapters 287—299 (relating to interaction with other environmental statutes; and residual waste management). The amendments are the result of the Department of Environmental Protection's (Department) evaluation of the residual waste regulations in accordance with the Regulatory Basics Initiative (RBI) and Executive Order 1996-1.

This order was adopted by the Board at its meeting of September 19, 2000.

A. *Effective Date*

These amendments will go into effect upon publication in the *Pennsylvania Bulletin* as final-form rulemaking.

B. *Contact Persons*

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C. *Statutory Authority*

The final-form rulemaking is being made under the authority of the following:

The Solid Waste Management Act (SWMA) (35 P. S. §§ 6018.101—6018.1003), which in section 105(a) of the SWMA grants the Board the power and duty to adopt the rules and regulations of the Department to carry out the provisions of the SWMA.

The Clean Streams Law (CSL) (35 P. S. §§ 691.1—691.1001), which in section 5(b) of the CSL grants the Department the authority to formulate, adopt, promulgate and repeal the rules and regulations as are necessary to implement the provisions of the CSL and which in section 402 of the CSL grants the Department the authority to adopt rules and regulations requiring permits or establishing conditions under which an activity shall be conducted for any activity that creates a danger of pollution of the waters of this Commonwealth or that regulation of the activity is necessary to avoid pollution.

The Municipal Waste Planning, Recycling and Waste Reduction Act (Act 101) (53 P. S. §§ 4000.101—4000.1904), which in section 302 of Act 101 gives the Board the power and duty to adopt the regulations of the Department to accomplish the purposes and carry out the provisions of this act.

The Pennsylvania Used Oil Recycling Act (PUORA) (58 P. S. §§ 471—480), which in section 480(e) of PUORA grants the Department the authority to issue any rules or regulations under this act.

The Administrative Code of 1929 (Administrative Code) (71 P. S. §§ 510-5, 510-17 and 510-20), which in section 1905-A of the Administrative Code authorizes the Department to require applicants for permits and permit revisions to provide written notice to municipalities, in section 1917-A of the Administrative Code authorizes and requires the Department to protect the people of this Commonwealth from unsanitary conditions and other nuisances, including any condition which is declared to be a nuisance by any law administered by the Department and in section 1920-A of the Administrative Code grants the Board the power and the duty to formulate, adopt and promulgate rules and regulations as may be determined by the Board for the proper performance of the work of the Department.

The Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P. S. §§ 6026.101—6026.909), which in section 104(a) of Act 2 (35 P. S. § 6026.104(a)) authorizes the Board to adopt Statewide health standards, appropriate mathematically valid statistical tests to define compliance with Act 2 and other regulations that may be needed to implement the provisions of Act 2. Section 301(c) of Act 2 (35 P. S. § 6026.301(c)) authorizes the Department to establish by regulation procedures for determining attainment of remediation standards when practical quantitation limits set by the United States Environmental Protection Agency (EPA) have a health risk that is greater than the risk levels established in Act 2. Section 303(a) of Act 2 (35 P. S. § 6026.303(a)) authorizes the Board to promulgate Statewide health standards for regulated substances for each environmental medium and the methods used to calculate the Statewide health standards.

The Waste Tire Recycling Act (Act 190) (35 P. S. §§ 6029.101—6029.113), which in section 105(4) of Act 190 (35 P. S. § 105(4)) authorizes the Department to regulate the disposal of waste tires.

The Radiation Protection Act (35 P. S. §§ 7110.101—7110.703), which, in sections 7110.301 and 7110.302 of the Radiation Protection Act grants the Department the authority to propose regulations and the Board the authority to adopt the Department's regulations to accomplish the purposes and carry out the provisions of the Radiation Protection Act.

Section 4909(e) (relating to transporting foodstuff in vehicles used to transport waste) of the Vehicle Code (75 Pa.C.S.A. §§ 101—9805), which grants the Board the power and duty to adopt regulations, if necessary, to carry out the requirements of section 4909.

D. *Background of the Amendments*

The residual waste program in this Commonwealth was predominantly developed under the SWMA (Act 97). Currently, there are no comprehensive Federal regulations governing the management of nonhazardous industrial, mining and agricultural wastes (residual waste), with the exception of Federal regulations for the management of used oil. Act 97 authorized the Department to develop and promulgate regulations to manage residual waste. Under Act 97, residual waste generally consists of waste from industrial, mining and agricultural opera-

tions, and includes non hazardous sludge from an industrial, mining, or agricultural waste treatment or pollution control facility. On July 4, 1992, the Department promulgated a comprehensive set of regulations for the management of residual waste. The regulations were developed over a long period of time to allow extensive input from the public and the regulated community.

With the passage of Act 2 in 1995 and the promulgation in 1997 of regulations to implement that law, the Department has taken the opportunity to further consider the interaction between Act 2 and the SWMA, with respect to waste management facilities, during this rulemaking process. Changes proposed in this rulemaking were intended to properly place relevant performance standards identified by Act 2 into the operational sections of permitted facilities.

This rulemaking was developed in response to the Secretary of the Department's RBI and the Governor's Executive Order 1996-1 that required all Departments to reevaluate existing regulations. The RBI requires evaluation of regulations based on the following criteria: agency requirements are no more stringent than standards imposed by Federal law unless justified by a compelling and articulable Pennsylvania interest or authorized by State law; requirements are eliminated which are no longer necessary or redundant; performance-based requirements are encouraged; new green technologies are encouraged; a pollution prevention approach is supported; and information is prepared in plain, simple, clear and concise language.

The RBI review process invited the regulated community, local governments, environmental interests and the general public to help the Department identify specific regulations that should be changed based on the RBI criteria. Input was solicited from the Solid Waste Advisory Committee (SWAC), the Pennsylvania Chamber of Business and Industry, the Pennsylvania Waste Industries Association, the Pennsylvania Electric Association, and numerous other groups, individual companies and the public. The opportunity for involvement in this process was noticed in the *Pennsylvania Bulletin* with a 90-day comment period. Evaluation of the residual waste regulations under the RBI criteria resulted in the Department's preparation of eight separate reports. These reports were made available to the general public, the regulated community, local governments and environmental interest groups. In addition, the Department prepared a Comment and Response Document to address the comments received during the RBI evaluation and to identify which regulations would be revised in response to the comments.

In addition to the process outlined in this Preamble for the RBI evaluation, the Board held three public hearings and provided a 60-day period of public comment on the proposed regulations. Notice of the proposed rulemaking was published at 28 Pa.B. 4073 (August 15, 1998). During the public comment period of this rulemaking, the Department received written comments from 40 individuals or groups, and 3 individuals or groups presented testimony at the public hearings.

The final-form regulatory amendments reflect recommendations identified as a result of the RBI process, necessary changes identified as a result of 5 years of experience in implementing the regulations and recommendations identified during the public comment period for this rulemaking. The Department met with SWAC to review and discuss comments received during the public comment period on this rulemaking on March 11, 1999, and July 8, 1999. In addition, the Department met with a residual waste subcommittee of SWAC on November 4, 1999, to discuss issues relating to the "waste" definition in more detail. On June 8, 2000, SWAC reviewed and approved the draft final-form residual waste regulations.

The final-form regulations include various provisions for protecting the public health from radioactive materials that occasionally arrive at residual waste facilities. Language was included in the proposed regulations that would have required the facilities to screen waste for radioactive materials. Public comments were received on the proposal and concerns of the waste industry were shared with the Department. The Department met a number of times with representatives of several components of the waste industry, and on several occasions with SWAC to discuss its proposed approach. The Department also proposed a "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document No. 250-3100-001, which received extensive public comment. The Department has prepared a Comment and Response Document for the guidance document. Based on the input the Department received from the commentators on the proposed regulations and the guidance document, the Department has revised the residual waste regulations and guidance concerning radioactive materials and monitoring. Provisions were placed in various sections throughout the regulations to specify the prohibitions and restrictions on acceptance of this type of material. Implementation of the regulations will be assisted by the detailed guidance document.

The Department returned to SWAC on July 13, 2000, to address two specific concerns raised by a SWAC member at the June 8th meeting. The SWAC member had expressed concern that short-lived radioactive material from a patient having undergone a medical procedure would unnecessarily cause alarms to trigger frequently. The final-form regulations authorize such material to be disposed in waste facilities upon case-by-case permission from the Department or upon advance authorization in the facility's approved radiation protection action plan, using the general concepts provided in the Department's guidance document to protect the facility's workers, the public health and safety and the environment.

E. *Summary of Comments and Responses on the Proposed Rulemaking and Summary of Changes to the Proposed Rulemaking*

Following the public comment periods, the Board and the Department considered the comments received at the public hearings and the written comments in formulating the final-form regulations. The Department has prepared a comment and response document that addresses each comment on the proposed regulations.

The proposed rulemaking specifically requested comments on whether water supply treatment plant sludge should be managed under the residual waste regulations or the municipal waste regulations. One commentator strongly supported the regulations of water supply treatment sludge under the municipal waste regulations rather than the residual waste regulations. After careful consideration the Board decided that there was more flexibility for beneficial use and disposal landfill design in the residual waste regulations. The Department will review the bonding calculation for water supply treatment plant sludges based on the consistent characteristics of this type of waste and revise the bonding worksheets to better reflect the potential impacts of disposal of this waste in a monofill.

The Department proposed new language in § 287.1, regarding the definition of "clean fill," and proposed a deletion in § 287.101, regarding the management of clean fill. Several commentators offered opinions and recommendations concerning these changes. The Department decided not to make changes to the final-form rulemaking on issues relating to "clean fill." Based on the recent release of the safe fill package for public comment, and the development of an alternative proposal by the Cleanup Standards Scientific Advisory Board, the Department intends to continue its evaluation of recommendations received. The Department intends to propose a new rulemaking to address issues relating to clean fill.

The following is a summary of major comments received and changes which have been made to the proposed rulemaking. The summary is listed in the same order as the final-form regulations.

Chapter 250. Administration of the Land Recycling Program

Section 250.9. Interaction with other environmental statutes.

In the proposed amendments, the references to abatement and remediation standards were removed for permitted waste management facilities and properly placed in Articles VIII—IX.

Commentators suggested that the proposed regulations should encompass more than numeric values—the nonsuse aquifer standards, the remediation process, the liability release of Act 2 and compliance points should be incorporated.

The Board decided to maintain the process requirements under the SWMA with respect to the abatement and remediation of groundwater at permitted solid waste facilities. The extension of compliance points, beyond the property boundary, has been incorporated for secondary contaminants at the time of closure. It is the Board's intention to minimize the offsite migration of contamination at a permitted facility. A facility that is operating in accordance with the design and performance standards of these regulations is subject to early warning monitoring requirements that should prevent contamination from leaving the facility's property. The Board does not intend to incorporate the nonuse aquifer Statewide health standards, therefore, since contamination should largely be contained on the property where the facility is located.

On final-form rulemaking, no changes were made to this section.

Chapter 287. Residual Waste Management—General Provisions

Subchapter A. General Provisions

Section 287.1. Definitions.

The Board received a significant number of comments on this section.

"Abatement standard"

A commentator indicated that the term "abatement standards" should not be redefined for these regulations, but should refer to the standards developed under Act 2. The Board continues to find it appropriate to identify standards for cleanups relating to a facility that continues to receive waste that are different from standards for cleanups of discrete spills or releases. Limitations on the use of Act 2 standards for permitted, operating facilities were incorporated to preserve the integrity of the design, operating and performance standards of the processing or disposal unit.

"Accumulated speculatively"

Several commentators raised concerns about the adoption of the term "accumulated speculatively." Commentators suggested that the regulations should reflect market dynamics, that the removal rate should not apply to existing piles from historical production, and that accumulation of residual wastes does not pose a threat of harm to human health and the environment. In addition, with respect to coproducts, a commentator indicated that the existing performance standard, "actually used on a regular basis," is more understandable, practical and effective than the actual calculation of material recycled. The Board decided that the term "accumulated speculatively" is necessary to assist in determining when a material is a waste, when waste is used or reused and when "storage" ends and "disposal" begins. The improper storage or continued storage of residual waste for a lengthy time period has the potential to pose threats to human health and the environment. The Board believes that calculation of material that is actually recycled or transferred for recycling is a clear, measurable goal. With respect to historical piles, the residual waste regulations adopted in 1992 required all waste piles to close under a closure plan or become permitted. These final-form regulations include an exemption from the term "accumulated speculatively" if waste is being mined and if the mining is being done pursuant to a waste closure plan or, for waste disposed prior to September 7, 1980, the mining is being done under an approved mining permit.

"Aquifer"

Commentators suggested that the definition for "aquifer" should be revised to conform with Federal regulations that refer to being "capable of yielding significant quantities of groundwater to wells or springs." The Federal definition has not been incorporated due to variations in the actual or potential use of the groundwater. The existing regulations provided a more objective test by referring to the capability of yielding sufficient groundwater for monitoring purposes.

"Background standard"

One commentator indicated that the regulations should not include a definition for the term "background standard" since the term is used in the land recycling regulations. The Board decided that the term is necessary in the waste regulations for the purpose of referring to acceptable abatement and remediation standards for waste facilities.

"Clean fill"

An effort was made to address the clean fill issue by including an additional public comment period on the draft regulatory revisions, a draft Safe Fill Policy and a draft general permit. As a result of comments received on the regulations and during the additional public comment period, the Department will remove this portion from the regulatory package and prepare a separate regulatory package that addresses these issues. Parts of the expanded public comment period not directly related to clean fill have been included in this rulemaking, including the permit waiver language for waste encountered as part of a remediation, and a revision to the general permitting regulations to allow for the issuance of a general permit for fill.

"Container"

One commentator recommended that the regulations include a definition for the term "container," referring to a stationary vessel which is used for the onsite storage of

produced residual waste materials. The Board decided that the term does not need to be defined. It is difficult to craft a definition for the term that is suitable for the management of all residual wastes; therefore, it is necessary to maintain some flexibility in the application of the term.

"Contaminated water"

One commentator indicated that the use of the phrase "contaminated water" in the definition of "waste" is problematic because it creates a duplicate regulatory structure for wastewaters discharged under an NPDES permit. The definition of "residual waste" in the SWMA includes liquid materials resulting from industrial operations. The residual waste regulations avoid duplicative regulation of wastewaters where necessary. For example, a person processing wastewater may be eligible for a permit-by-rule under the residual waste regulations, which prevents duplicative permitting.

"Coproduct"

Several commentators raised concerns about the proposed amendments to the "coproduct" definition. Commentators indicated that the current definition should be retained without change, that the proposed definition expands greatly the class of materials that will now be deemed a "solid waste," and that the definition should be modified to allow coproducts to be compared to wastes or other coproducts. Some commentators did not understand why the materials that may qualify as coproducts are limited to those used for energy recovery or land application.

Several commentators raised concerns about the proposed regulation concerning the Btu value associated with energy recovery. Commentators indicated that a "bright-line" test based on a minimum Btu value would remove the Department's flexibility to decide, on a case-by-case basis, what constitutes energy recovery. Other commentators supported a Btu/lb. limit at 5,000, identical to the hazardous waste program requirements. Commentators also recommended that the Btu rating be expressed on a per pound basis.

The Board supports the adoption of modifications to the definition of "waste" and related terms to be consistent with the approach used in the RCRA program and the state hazardous waste program. Based on this support, the Board recognizes the need to preserve opportunities for the land application and energy recovery of materials generated from industry, without regulation, as long as sufficient safeguards exist to prohibit sham recycling. The final-form regulations expand the exemptions in the definition of "waste" to exclude, upfront, material reused offsite as an ingredient in manufacturing. This expansion eliminates the need for certain materials to qualify as coproducts, since they are not regulated. For purposes of clarity, the final-form rulemaking includes language that prohibits materials from being compared to materials that undergo a determination under § 287.7 (relating to determination that a material is no longer a waste) since such a determination is often conditional. With respect to energy recovery, based on comments received, the Board is adopting a minimum standard of 5,000 Btus/lb. for coproducts burned for energy recovery, except for material that is oil. This minimum standard is based on EPA's longstanding sham recycling policy that wastes with a Btu value of 5,000/lb. or more are considered to be fuels. If the proposed coproduct is oil, the oil must not be contaminated by physical or chemical impurities and its Btu value must be comparable to the petroleum fuel it is replacing.

"Dredged material"

One commentator recommended that "dredged material" not be regulated under the residual waste regulations. The proposed amendments placed the management of dredged materials under the scope of Article IX, instead of Article VIII. The Board decided on final-form rulemaking that the residual waste regulations provide more opportunities for reuse of this material than the municipal waste regulations. In addition, on final-form rulemaking, the Board added language to the definition to clarify that material removed or dredged from an impoundment that received solid waste does not fall within the meaning of "dredged material." Dredged material typically refers to material excavated from waterways and ponds.

"Groundwater degradation"

Commentators indicated that the regulations should define "groundwater degradation" as a measurable increase over background, Statewide health standards or risk-based standards (as those terms are used in Act 2). The Board decided to retain the existing definition because the Statewide health standards and risk-based standards only measure a level of degradation that triggers abatement. At those levels, groundwater may still be degraded.

"Leachate"

Commentators suggested that a Federal definition for "leachate" be substituted for the existing definition. The Board rejected this recommendation because the Federal language does not add any clarity to the term.

"Municipal-like residual waste"

Commentators have indicated that there is confusion surrounding the use of the term "municipal-like residual waste." While the proposed regulations included a definition for this term, it appears that the defined term has not added clarity. Commentators have stated that this waste represents a "fourth waste class" which is not mentioned in the SWMA or Act 101. Commentators have suggested that the term is not used consistently—the Department sometimes considers this waste to be municipal waste and at other times considers it to be residual waste. Concerns have been raised that the regulations would allow residual wastes having the same characteristics as household hazardous wastes to be managed as residual wastes. In response to these comments, the Board decided to delete the term "municipal-like residual waste" from the definitions and elsewhere in the final-form regulations. The final-form regulations continue to allow the Department to waive the detailed chemical analysis required for disposal of residual waste if certain performance standards are met under § 287.134 (relating to waste analysis plan).

"Perennial stream"

One commentator recommended clarification of the definition of the term "perennial stream" to include the concept that the stream must flow continuously in all seasons of the year. The Board continues to support the current definition which is science-based and has been successfully used in this program as well as other programs administered by the Department.

"Product"

Commentators suggested that the definition of the term "product" be conformed to the definition for the same term in the hazardous waste regulations and that the definition be amended to provide that the commodity is

one of the primary intended results (instead of the sole or primary result) of a production process. The hazardous waste program no longer defines the term "product." The Board decided that the existing language, referencing the sole or primary result, is appropriate.

"Reclaim"

One commentator recommended that "reclamation," itself, is a form of use or reuse and that reclamation should not be treated differently than any other form of use or reuse. The Board supports the proposed definition for "reclamation," a material processed to recover a usable product or regenerated, which is consistent with the Federal definition for the same term. It is necessary to retain this term to make the final definition of "waste" and related terms work.

"Regional water table"

One commentator indicated that the definition of the term "regional water table" does not include perched water table. The definition for "regional water table" intentionally excludes perched water tables because the perched water tables are smaller-scale, distinctly isolated units from the regional water table. As such, the regulations address isolation distances from these bodies of water differently.

"Related party"

One commentator suggested that the term "related party" should be limited to persons with the responsibility or ability to direct or control activities relating to the processing or disposal of solid waste at a facility. The Board does not agree with this recommendation because even a party without the ability to direct or control activities can still significantly affect them.

"Remediation standards"

Commentators suggested that definitions of the terms referred to in the definition of "remediation standards" should not be included in this rulemaking because they add confusion rather than clarity. The Board retained the terms and their definitions on final-form rulemaking. Differences in the terminology are necessary since the standards apply differently in Chapter 250 and these regulations.

"Scrap metal"

One commentator recommended that the definition of "scrap metal" be amended to refer to material that can be recycled, not merely reused. The Board decided to maintain the definition as proposed since a waste permit for processing is required before the material can be reused and because it is consistent with the federal definition and the state hazardous waste definition.

"Seasonal high water table"

Two commentators recommended that the term "seasonal high water table" be defined as the uppermost aquifer seasonally present. The seasonal high water table is evidence for a saturated condition that may result from slowly permeable layers in the soil profile. It may exist and fluctuate in response to seasonal trends in precipitation and may be above the regional groundwater flow system. The seasonal high water table and the regional groundwater table require different isolation distances in relation to the liner system. The Board adopted changes to this term on final-form rulemaking to be consistent with the municipal waste regulations.

"Special handling waste"

One commentator recommended that the definition of the term "special handling waste" should only refer to the wastes specifically listed. To date, the Board added materials to the list only through rulemakings, based on experiences that necessitated special handling procedures for certain waste types. Due to the wide range of wastes generated, however, it is not always possible to anticipate when special handling procedures are necessary for a waste type. Therefore, the Department maintains some discretion on deciding when to identify a new waste as one requiring special handling. On final-form rulemaking, the definition of dredged material has been added to the list of special handling wastes due to the physical and chemical characteristic of the material.

"Statewide health standard"

Two commentators indicated that the term "Statewide health standard" should include the nonuse aquifer standards and that waste facilities should be subject to all of the Act 2 standards. The Board disagrees since the intention of the solid waste program is to minimize offsite migration of contamination at regulated facilities.

"Steel slag"

Commentators recommended that the definition of "steel slag" be amended to include material generated in the making of steel in a basic oxygen furnace, that the exemption of steel slag from the "waste" definition be expanded to uses offsite, that the words "uncontaminated, nonwater soluble" and "inert" be deleted from the definition, and that the term include slags from iron furnaces. The Board does not believe that an expansion of the slag exemption is warranted. The chemical characteristics of steel slag (such as, metal content) vary considerably depending on the steelmaking process. The restriction for use onsite is appropriate because there is more control over the proper management of the material. The Board decided that the term "inert" should be deleted from the definition, and the final language reflects the change.

"Waste"

Several commentators offered input on the definition of "waste." Commentators indicated that implementation of the proposed language will cause recycling to be more expensive. In addition, commentators suggested that language should be added to provide for more exclusions from "waste" for materials such as clean fill, scrap metal, steel slag, materials for reclamation, metals, clean glass, paper, cardboard, and NPDES discharges. One commentator stated that the definition of "waste" regulates nonhazardous reclaimed secondary materials more stringently than the federal hazardous waste regulations. Some commentators indicated support for the definition since it would exclude from regulation materials that are recycled by being used or reused as an ingredient in an industrial process.

The Board decided not to adopt suggested revisions. Many of the materials recommended for exclusion already are excluded if used in an industrial process to make a product or used as an effective substitute for a commercial product. There is no need to exempt NPDES discharges from the definition of "waste" since they are not regulated under the SWMA. Only the collection, storage and processing of wastewaters, prior to discharge, are regulated under the SWMA. A total exemption for steel slag was rejected because the degree of variation in the chemical constituents of steel slag continues to mandate implementation of requirements for the proper handling of the material when used offsite. With respect to re-

claimed materials, the reference to reclamation in the definition will not affect materials that are being directly recycled, on or offsite, as an ingredient in an industrial process. The regulations will only apply if the material must be processed, through reclamation, prior to use. Most reclamation processes are performed at the site of waste generation and may be eligible for coverage under a permit-by-rule for captive processing. On final-form rulemaking, a typographical error to a cross Section and numbering within the definition was corrected.

On final-form rulemaking, definitions for the following terms were added for further clarification of the regulations: "airport," "association," "autofluff," "byproduct material," "FAA," "NARM," "NORM," "radioactive material," "source material," "special nuclear material," "TENORM" and "transuranic radioactive material." The term "airport" was added to clarify the types of landing areas that are implicated in the siting restrictions and environmental assessment. A definition for "association" was added for clarification in the permit application requirements relating to the identification of interests and compliance history. The definition is taken from section 102 of the Corporations Code (15 Pa.C.S. § 102) (relating to definitions). A definition for "autofluff" was added to clarify the use of the term in the scope section, § 287.2. The term "FAA," which refers to the Federal Aviation Administration of the United States Department of Transportation, was added because the new restrictions on the construction and operation of landfills near airports involve the FAA. Definitions for the other terms mentioned here were added to clarify their usage throughout the final-form regulations in the monitoring requirements for radioactive material.

Section 287.2. Scope.

A commentator suggested that "municipal-like residual waste" be managed under the municipal waste program rather than the residual waste program to eliminate confusion. A commentator raised concern over the use of the term "small quantity" to describe the quantity of residual waste that may be mixed with sewage sludge for management under the municipal waste regulations.

On final-form rulemaking, the Board deleted the term "municipal-like residual waste" and its use in the regulations. With respect to sewage sludge, the Board decided to delete subsection (b)(3) entirely and manage any mixtures of residual waste, regardless of quantity, with sewage sludge under Subchapter I (relating to beneficial use) of the municipal waste regulations. In the final-form rulemaking, a new category of waste-waste from land clearing, grubbing and excavation, including trees, brush, stumps and vegetative material-has been added to the list of wastes that are subject to the municipal waste regulations. This waste primarily has characteristics that are generally found in the municipal waste stream. Also, subsection (i) was amended to include the word "permitted" when referring to a hazardous waste unit at a facility. This change makes it clear that residual waste may be managed at a hazardous waste facility, without a residual waste permit, as long as the hazardous waste facility is permitted.

Section 287.4. Computerized data submission.

A new subsection (a) has been added in the final-form rulemaking to allow data submissions electronically or on magnetic or optic storage media if the Department is capable of receiving it in that manner for review. A new subsection (c) was added to authorize the Department specifically to require a different scale on maps, reports and plans that are submitted electronically or on magnetic or optic storage media. Maps, reports and plans submitted in this format are capable of showing much more detail than paper maps, reports and plans, and the more detailed information can be accessed and used in many useful, new ways when submitted in this format.

Section 287.8. Coproduct determinations.

Commentators recommended that the final-form regulations "grandfather" coproduct determinations recognized by the Department. One commentator recommended that a permit-by-rule be developed to clarify the Department's administrative role. Commentators suggested that a more flexible approach to evaluating risks be incorporated. One commentator suggested that subsection (b)(3) be reorganized into several sentences for clarity. One commentator recommended that the term "consistently equivalent" be defined.

On final-form rulemaking, the Board decided not to "grandfather" coproduct determinations, but to incorporate a transition time for compliance with this rulemaking (see § 287.10). Since many persons who perform coproduct determinations do not ask and have not been required to ask for Department concurrence, it would not be fair to "grandfather" a subset of the determinations made to date. The Board believes that the use of a permit-by-rule would be counterproductive to the reuse of materials. As written, the final-form regulations are flexible with regard to risk assessments. The final-form regulations, with respect to subsection (b)(3), have been reorganized for clarity. In addition, language has been added to subsection (c), requiring a risk evaluation, that was inadvertently excluded from the proposed amendments. A definition of the term "consistently equivalent" has not been included in the final-form rulemaking. There is a certain range in the physical characteristics and chemical composition of any substance. Thus, for a proposed material to be a coproduct, the range in the physical characteristics and chemical composition of the proposed coproduct must fall within an acceptable range in the physical characteristics and chemical composition of the intentionally manufactured product or produced raw material to be replaced.

Section 287.9. Industry-wide coproduct determinations.

One commentator recommended that the language "do not vary over time" (in subsection (a)) be modified to allow a certain degree of variation in the chemical and physical characteristics of the material generated. One commentator indicated that the "reopening" provisions in subsection (c) create a stigma by causing an association with regulations.

The Board believes that the proposed language provides adequate flexibility for determining the degree of variation in chemical and physical characteristics. In addition, the Board does not believe that a "stigma" is caused by indicating that a discovery of misinformation or misuse will jeopardize the coproduct status.

Section 287.10. Coproduct determination transition.

A new section has been added on final-form rulemaking that provides a transition scheme for existing coproducts to become compliant with the final-form regulations. This Section was added in response to the comments received regarding the "grandfathering" of existing coproducts. Since the regulations never required persons to request concurrence from the Department on coproduct determinations, the Board does not believe it is appropriate to "grandfather" one subset of coproduct determination. In order to maintain a "level playing field," the transition scheme has been developed. Under the transition, new

coproduct determinations must be made in accordance with the final-form regulations. Persons may continue to operate under previously made coproduct determinations provided documentation is maintained demonstrating continuing compliance with those determinations. Finally, all persons operating under coproduct determinations must be in compliance with these final-form regulations within 2 years of the effective date of the regulations.

Subchapter B. Duties of Generators

Section 287.51. Scope.

One commentator suggested that the word "requirements" be inserted after the phrase "biennial report and source reduction strategy" in subsection (a). The final-form rulemaking incorporates this change. In addition, subsection (c) has been modified to indicate that the biennial report, source reduction strategy and chemical analysis of waste are not required for persons who meet the requirements of paragraphs (1) or (2); however, records must be created and retained in accordance with § 287.55 (relating to retained recordkeeping).

Section 287.52. Biennial report.

One commentator suggested that the biennial report requirement be eliminated for facilities filing annual 26R reports. The requirement has been retained on final-form rulemaking because the two reports ask for different information regarding the waste streams. For example, a detailed chemical analysis of waste is required for the 26R report, while the biennial report is more focused categories of waste and their volumes. On final-form rulemaking, the Board amended subsection (c) to authorize a manager (the parallel to an officer of a corporation) to sign on behalf of a limited liability company.

Section 287.53. Source reduction strategy.

Two commentators requested that the regulations include a waiver of the source reduction strategy requirements for small waste streams generated by large quantity generators. One commentator suggested that it is wasteful to require the submission of source reduction strategies to landfills.

The requirements pertaining to source reduction strategies have been in place since 1992. The Department temporarily relieved industry from performing the evaluation on small waste streams for a long period of time, until the larger waste streams were reviewed. Sufficient time has passed to progress to the next level of waste stream evaluation. With regard to the submission of the strategies to the landfills, the Department is in the process of modifying the source reduction strategy forms to reduce the information that must be submitted to the landfill with the Form U. On final-form rulemaking, the Board amended subsection (e) to authorize a manager (the parallel to an officer of a corporation) to sign on behalf of a limited liability company.

Section 287.54. Chemical analysis of waste.

Commentators suggested that the threshold for requiring a chemical analysis should be the generation of 2,200 pounds per month for each waste stream. Also, the commentators recommended that generator knowledge be an acceptable substitute for chemical analysis. In addition, commentators indicated that the proposed regulation requiring the determination of the leaching potential of residual wastes should be eliminated because a waste characterization is required to be performed under Form 26R and the test is not applicable to waste that is not landfilled. One commentator asked for clarification of the types of modifications the Department may make to the requirements, when requested, for special handling waste.

The existing threshold for the chemical analysis requirement takes into account many smaller waste streams that accumulate into large quantities of waste. The regulations currently allow for the use of material safety data sheets or similar sources of information to help characterize the waste. With respect to modifications of the requirements, one example of when a chemical analysis would not be necessary is in the case of waste tires.

On final-form rulemaking, the proposed language requiring the performance of a leach test has been deleted. In addition, a new subsection has been added requiring a person to perform a chemical analysis every 5 years. This requirement was added to verify the initial analysis to make sure that the waste characteristics have not changed and to assist with the evaluation of the source reduction requirements.

Section 287.55. Retained recordkeeping.

One commentator indicated that the records retention requirement should not apply to captive disposal facilities because it is not practical for continuously produced wastes. The commentator suggested that regulations should allow the use of daily landfill operational reports to meet this requirement. The operational reports may be used to meet this recordkeeping requirement if all the waste generated is disposed in the captive facility.

On final-form rulemaking, language has been added to clarify that the generation of any quantity of residual waste triggers the records retention requirements.

Subchapter C. General Requirements for Permits and Permit Applications

General

Section 287.101. General requirements for permit.

One commentator suggested that R&D operations should be exempt from permitting requirements. The requirements for demonstration permits have been modified in the final-form regulations to allow greater flexibility for these operations.

One commentator suggested that all beneficial uses should be exempt from permitting requirements. The SWMA requires that beneficial use of waste be performed pursuant to a general permit.

A commentator suggested that a new requirement should be created that authorizes the issuance of a single permit that integrates two or more separate authorizations. Provisions in § 287.2 currently authorize this practice in certain programs, such as the collection, storage and processing of residual waste at a permitted hazardous waste facility.

On final-form rulemaking, new language has been added to subsection (c) that clarifies circumstances when the Department may require a person or municipality to obtain a permit, regardless of the exemptions outlined in (b), based on harmful conduct. In addition, a new subsection (e) has been added on final-form rulemaking that would allow the movement of waste, encountered during a site remediation under Act 2, from one location of the site to another as long as the waste remains onsite, is moved in accordance with a Department-approved remedial investigation report under the site-specific standard,

and is moved in accordance with this subsection. No permit is required for the movement of waste in accordance with this subsection.

Section 287.102. Permit-by-rule.

On final-form rulemaking, the Board decided to modify subsection (f), relating to beneficial use, by adding an expiration date of July 4, 2002, unless a specific permit term is written as a condition of the prior written approval, for activities conducted under this permit. Many of the uses approved prior to 1992 may be outdated and may be in conflict with present beneficial use requirements. After 2002, these operations would be eligible to apply for general permits. In addition, the Board decided to include a new permit-by-rule, subsection (k), which allows the temporary storage of residual waste at a hazardous waste transfer facility. Many operations transport both hazardous and residual wastes from industries. This permit will facilitate the transportation or transfer of the wastes as long as all waste is stored in accordance with hazardous waste requirements for hazardous waste transfer facilities and the conditions of this permit are met.

Transition System for Existing Facilities

Section 287.112. Storage impoundments and storage facilities.

Commentators indicated that the use of the property boundary as the point for measuring containment of contaminants, to determine whether a liner and leachate treatment system may be waived or modified, is inconsistent with Act 2 standards. The commentators stated that facility operators would be prevented from taking advantage of Act 2 provisions that allow movement of the point of compliance further down gradient for secondary contaminants. The Board does not agree with this recommendation because these regulations apply to facilities that utilize old technology and the intentions are to minimize impacts from these waste facilities and to only allow permit issuance of technology if it does not result in uncontrolled pollution.

A commentator indicated that the waiver provisions for storage impoundments are stricter than the waiver provisions for disposal impoundments, with respect to the management of groundwater degradation. The commentator suggested that this section be revised to incorporate the same flexibility as is afforded to disposal impoundments. The Board disagrees with this recommendation because storage impoundments can be taken out of operation and readily repaired since the waste does not remain in place permanently.

No changes were made to this section on final-form rulemaking.

Section 287.115. Filing by permitted facilities.

The proposed regulations included language that did not allow waiver or modification of a liner or leachate treatment system for areas identified in an application for a new permit or permit modification submitted after July 4, 1997. Several commentators suggested that the language be revised to ensure the waiver provisions are maintained for facilities originally permitted prior to July 4, 1992, since sites currently operating under the waivers in an environmentally responsible manner should be allowed to expand using the same design. The Board disagrees with this recommendation. The 1992 regulations allowed for an extended transition and allowed industries to continue to operate utilizing old technologies. At this point in time, it is appropriate to encourage the use of state-of-the-art technologies in areas where facilities intend to expand.

On final-form rulemaking, subsection (c)(4) has been modified to allow consideration of waivers for areas identified in an application submitted prior to the effective date of these regulations—rather than prior to July 4, 1997.

Section 287.117. Closure plan.

Subsection (j)(1) has been modified to clarify what was meant in the proposed regulations by the word "prior" when used to describe a point in time. The final-form regulations clearly state that the remediation standards referred to are those identified in agreements entered into prior to the effective date of these regulations.

Section 287.122. Form of application.

The Board amended subsection (d) on final-form rulemaking to clarify that the design section of a permit application must bear the seal of a Pennsylvania registered professional engineer. Also, the Board clarified that the geologist who supervises the completion of the geology and groundwater Sections of an application must be licensed in this Commonwealth

Section 287.123. Right of entry.

A commentator recommended that the final-form regulations remove the requirement for written consent of a landowner to conduct waste processing or disposal activities if the permit applicant owns the land. The landowner consent requirement is important for the purpose of informing future landowners of the activities, since the form is required to be recorded with the deed.

Because the Department currently requests information required by subsections (b) and (c) on one form, the Board amended subsection (d) to require that all of the information on that form—landowner consent to waste activities and landowner consent to the Commonwealth's right to enter the permit area—be recorded. A new subsection (e) has been added to indicate that subsequent landowners are deemed to have constructive knowledge of the Commonwealth's right of entry and the consent of solid waste activities on the land if the forms required by this section are properly filed at the office of the recorder of deeds in the county in which the proposed solid waste activity is situated.

Section 287.124. Identification of interests.

A commentator suggested that contractors, limited partners, or principal shareholders, except those with the responsibility or ability to direct or control waste activities, should not be included as interests to be identified. The Board declined to make these changes because all contractors that perform work at these environmentally sensitive facilities should be identified and reliable. With regard to limited partners and principal shareholders, these persons may have the ability to direct or control activities, whether officially or not.

Subsection (b) was amended on final-form rulemaking to include limited liability companies, a type of association recognized in the Pennsylvania Corporations Code since 1994. A correlating change was made to subsection (c) to include members or managers of limited liability companies, who are the parallels of owners and officers in corporations.

Section 287.125. Compliance information.

One commentator suggested reducing information that must be reported concerning legal proceedings. The Board

declined to make this change because relevant information, which might otherwise not come to the Department's attention, is often brought to light in the types of actions proposed for deletion by the commentator.

The Board updated subsection (a)(7) in the final-form regulations to include requirements for limited liability companies and partnerships.

Section 287.127. Environmental assessment.

Several commentators suggested eliminating the balancing of interests and one commentator specified that the test should simply be one of mitigation. The final-form regulations retain the balancing test for many reasons. The test is reasonable, takes into account input from and dialogue with interested parties, including the applicant, and involves close scrutiny of all factors by the Department. The environmental assessment, including the balancing test, carries out the Department's obligation under the SWMA to implement PA. CONST art. I, § 27, which mandates that the Commonwealth protect public resources. The test is designed to take into account the site-specific impacts the waste management facility may have on the specific location of the facility and other affected areas. Under PA. CONST. art. I, § Article I, § 27, the Department has been balancing harms and benefits for many years. Balancing harms and benefits finds support in case law.

One commentator thought the word "clearly" should be eliminated from subsections (c) and (d), and that social and economic benefits should not be reduced by social and economic harms. The Board retained both concepts because the balancing test is not a simple mathematical computation so benefits must "clearly" outweigh harms in order to ensure that public resources are protected; and social and economic harms should be considered because they help to create a true picture of the social and economic impacts of the facility. To complete the picture, environmental benefits are also considered.

Two commentators stated that the Board should not allow private parties to determine specific "known and potential harms." The response is that the applicant must identify all known and potential harms and must evaluate all harms identified by itself, potentially affected persons, the Department and other agencies. Section 287.127 is designed to elicit information from affected parties as to their perceptions of the known and potential harms to ensure a comprehensive environmental assessment. Ultimately, upon review of the application and all other input received, the Department determines what the specific "known and potential harms" are.

A commentator expressed concern that subsection (f) would result in litigation if not every potentially affected person were consulted by the Department. The response is that this section describes the timing of the Department's evaluation of the environmental assessment. The timing is not new and should not create a new right since the same timing was described in subsection (b) before this section was revised by this rulemaking.

One commentator suggested that this section should only apply to applications filed after the effective date of the final-form regulations. A decision will be made on an application, however, based on the law that is in effect at the time the decision is made.

Several changes were made to the final-form regulations. The Board added "local parks" to the list of features in subsection (a) that an applicant must consider in determining the potential impacts of a proposed facility or modification to fill in the gap left by only listing state and Federal parks.

The Board added "airports" to the list of features in subsection (a) to clarify that if a proposed facility will have the potential of causing harm to aircraft arriving at or departing from an airport, the application will have to include a plan to mitigate the harm or potential harm.

The Board added a requirement to subsection (a) that an application contain correspondence from any agencies to the applicant in regard to the environmental assessment to facilitate the Department's review of the environmental assessment.

The Board amended subsection (c) to clarify that harms and mitigation measures described in subsection (b) will be taken into consideration when the benefits and harms of the proposed facility are weighed. The Board similarly amended subsection (d).

Section 287.131. Scope.

On final-form rulemaking, the Board modified subsection (a)(1) to refer only to "captive" transfer facilities. The effect of this change is to apply the waste analysis requirements to noncaptive transfer facilities—not captive transfer facilities. Captive facilities are exempt because the waste streams received at these facilities are generated by one generator. The waste types, therefore, do not change and the waste stream is predictable.

Section 287.132. Chemical analysis of waste.

A commentator suggested that the availability of a waiver for chemical analysis should be eliminated for municipal-like residual waste. The proposed term "municipal-like residual waste" has been deleted from the final-form rulemaking in response to comments that it was too confusing. The final-form regulations include new language that is intended to clarify that the evaluation required by subsection (a) may be waived or modified if the applicant demonstrates that additional analysis is not necessary to determine that the waste can be received without adversely affecting the effectiveness of waste processing or disposal operations, established emission and wastewater discharge limits, liner or leachate treatment systems or, at Class III landfills, attenuating soil.

Section 287.135. Transition period for radiation monitoring.

All materials on earth have some level of radioactivity, but not all endanger the public health or safety or the environment. The final-form regulations establish a system for protecting the public (including residual waste facility employes) and the environment from the improper disposal and processing of radioactive materials that could endanger the health and safety of the public or the environment. These requirements appear in each chapter of the regulations and are the result of public comments received on proposed §§ 288.214, 289.224, 293.215 and 297.214. Section 287.135 has been added to establish a transition period for coming into compliance with the requirement to have the permit designate an area for vehicles in the event of the detection of waste containing radioactive material and the requirement to have the permit include an action plan specifying, among other things, procedures for monitoring and responding to radioactive material entering the facility. The Department's *Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*, document number 250-3100-001, gives direction for developing action plans, monitoring for radioactive material in waste

and preparing records and reports. A facility operator may adopt the standards and procedures in the guidance document even before the regulatory requirements that are transitioned under § 287.135 become applicable. An operator may also seek approval of an action plan and a designated area before the deadline established in this section. Since the requirement for radioactive monitoring is limited to noncaptive landfills, disposal impoundments, and incinerators, the Board has provided a 1-year transition for all facilities.

Section 287.141. Permit application fee.

The final-form regulation moves the fee for a minor permit modification from subsection (b) to subsection (c). Now, the fees in subsection (b) only apply to major permit modifications. Subsection (c) addresses the fee for minor permit modifications. All minor modifications, including onsite modifications authorized under § 287.222(c) (relating to permit modification), will be subject to this fee.

Section 287.151. Public notice by applicant.

Commentators indicated that the requirement to list contaminants in public notices is unnecessary because most of the public is unfamiliar with an understanding of chemicals and their effects on the environment and the notification will raise unnecessary public concern. A commentator recommended that the notice include only concentrations of groundwater degradation that exceed the background standard or the Statewide health standard at the applicable point of compliance. The Board declined to make the change suggested. An applicant is not limited to listing chemicals in a notice and may choose to provide an explanation of the chemicals that the public will understand. The proposed language is intended to parallel the Act 2 process, which requires notice by publishing a Notice of Intent to Remediate.

Section 287.153. Public comments.

One commentator recommended that the regulations be clarified to state that comments may be submitted to the Department by any person affected by a project at any time and may be considered by the Department, but that the Department is not required to consider comments not submitted in a reasonably prompt and timely manner. The Board decided that no change is necessary to this section. The Department provides for a formal comment period whenever it publishes notice of a permit application received. The Department will consider the comments it receives on a facility at any time during the permit review or during operation of the facility if it is issued a permit.

Section 287.154. Public notice and public hearings for permit modifications.

One commentator recommended that changes in average daily volume be considered a minor permit modification, rather than a major permit modification, because the changes only affect phase-in bonding and do not impact upon traffic, noise, dust or other environmental or public safety issues. The Board supports the proposed language because increasing the daily volume may significantly change day-to-day operations at the facility and may impact the surrounding area.

A commentator suggested that changes in contours and elevations which increase capacity by less than 6 months should be exempt from being considered major permit modifications. The Board supports the proposed language because depending on the size of the facility, this increase could be substantial. An increase in capacity (air space or size) is a major permit modification because it changes the facility's design and operating plans which can potentially impact the public in the vicinity of the facility.

New subsection (a)(12) and (13) relate to change of owner or operator. The Board added this language on final-form rulemaking to ensure that a change in the owner or operator of a landfill will require a major permit modification if the party that is changing is not the permittee. If the party that is changing is the permittee, the change will require permit reissuance under § 287.221 (relating to permit reissuance).

The Board added subsection (a)(14), which requires a major permit modification to dispose of waste in areas that have reached final permitted elevations because reopening areas that have reached final permitted elevations may significantly affect the closure and post closure construction activities that have been undertaken. In addition, the structural stability of the landfill must be reevaluated to account for the additional waste.

The Board added subsection (a)(15) to clarify that submission of a radiation protection action plan for Department approval will be considered an application for a major permit modification.

The Board added subsection (b)(9), which requires a major permit modification for a change in the maximum daily waste volume at a processing facility, because major components of the previously approved permit application are likely to change, including procedures for minimization and control of traffic, dust, noise and odor. On final-form rulemaking, new requirements in §§ 297.112 and 297.222 (relating to daily volume; and daily volume) establish the requirement for an approved maximum daily average in permit applications.

The Board added identical provisions to the provisions it added in subsection (a) regarding change in owner or operator in new subsection (b)(7) and (8) and regarding radiation protection action plans in new subsection (b)(9), relating to processing facilities, and new subsection (c)(4) and (5), relating to land application operations. The effect will be the same.

Subchapter D. Permit Review Procedures and Standards

Section 287.201. Criteria for permit issuance of denial.

On final-form rulemaking the Board added a new subsection (a)(4) to require that mitigation plans required by § 287.127 be implemented prior to obtaining a permit if required by the Department. This requirement is designed to help ensure proper and effective mitigation of harms and potential harms that can and should be mitigated prior to permitting.

Section 287.202. Receipt of application and completeness review.

One commentator suggested that a project approval or disapproval timeline should be established for all applications, if requested by the applicant. The Department's "Money-Back Guarantee Permit Review Program Expansion," published in 26 Pa.B. 3038 (June 29, 1996), establishes timelines for Department approval or denial of all permit applications. The Board declined to make this change in the final-form regulations.

On final-form rulemaking the Board added language relating to the procedures for receiving an application and performing a completeness review. These changes are consistent with the approach used in the municipal waste program. In general, the new procedures afford a greater opportunity for concerned parties to participate in the

application review process for new facilities and for certain permit modifications to existing facilities.

In subsection (b), a permit application for a new facility or a permit modification that would result in an increased average or maximum daily volume, increased disposal capacity or expansion of the permit area will not be considered to be "received" by the Department until the Department, applicant and municipal officials have met to discuss the proposed application. For purposes of this section, the term "municipal officials" includes representatives of local municipalities, including the host municipality and county, municipalities adjacent to the host municipality, municipalities located within 1 mile of the permitted or proposed area, other municipalities that demonstrate that they may be adversely affected by the proposed project and municipalities along the approach routes (subsection (f)).

Subsection (b)(2) requires an alternative project timeline to be developed for a noncaptive residual waste landfill, disposal impoundment or incinerator permit application. The Department's money-back guarantee permit review program will be updated to reflect these new regulatory requirements. The final-form regulations require an alternative timeline for these three types of facilities because these facilities tend to invoke the most public concern and are therefore the best candidates in the residual waste program for an alternative project timeline.

New subsection (f) includes definitions of the terms "local municipalities," "approach routes" and "municipal officials," as those terms are used in this section.

Section 287.203. Review period.

The Board has amended subsection (a) to identify the timelines for review of permit applications for captive landfills and disposal impoundments and for noncaptive residual waste landfills, disposal impoundments and incinerators.

Section 287.211. Term of permits.

A commentator recommended that subsection (e) be amended to allow the measurement of the 5-year period from the date of the ultimate resolution of any litigation challenging the validity of the permit. Also, the same commentator recommended that a new subsection be added to allow activities at permitted sites to be suspended pursuant to a temporary shutdown plan approved by the Department. The Board declined to make the changes because the project initially approved may require upgrading to meet current technology and management practices.

On final-form rulemaking, the Board added language to subsection (d) to require an operator to provide a summary of changes to the operations since approval of the initial permit or latest major permit modification when the Department conducts its 5-year review of the facility. This requirement was added because it provides the Department with the information in a format that will facilitate the review of the existing permit.

Section 287.212. Conditions of permits—general and right of entry.

One commentator indicated that in this era of corporate mergers and acquisitions, providing the compliance history information regarding the entity acquiring the controlling interest may be difficult within the time tables specified in the proposed regulations. The identification of interests and compliance information are important components of a permit application review. The 45-day allowance will not prohibit mergers or acquisitions but will require the operator to clearly indicate the track record of persons who have an influence on the day to day operations of the facility.

The proposed regulations in paragraph (4) required the permittee to notify the Department after the transfer of a controlling interest in the permittee. The final-form regulations clarify that this notification should occur when there is a transfer of a controlling interest in the owner or operator of the facility, regardless of whether that party is a permittee. The final-form regulations also clarify that if the transfer of controlling interest triggers a major permit modification or permit reissuance, notification under this Section is not required. Paragraph (4) is not intended to apply to changes in managers or directors, which will be described in the permittee's annual report.

Section 287.221. Permit reissuance.

One commentator stated that requiring permit reissuance for persons who sell or buy facilities with waste permits places these waste industries at a competitive disadvantage. The transfer, assignment or sale of rights may necessitate the processing of new bonding, insurance and compliance history information for the person assuming liability.

Section 287.222. Permit modification.

One commentator recommended that the regulations should include administrative permit modifications that may be made upon notification to the Department without prior approval. The final-form rulemaking includes activities that may be approved through onsite minor permit modifications and that only require follow-up written notice to the Department. (Modified subsection (c) and new subsection (d).) This tool is limited to modifications made during the construction phase only. It should not be used as a substitute for poor design plans submitted in the permit application.

Section 287.223. Permit renewal.

On final-form rulemaking, the Board amended the regulation to require earlier submission of permit renewal applications so that there will be adequate opportunity for timely review by the Department. The final-form regulation has been amended to require a processing facility or land application operation to submit a permit renewal application 270 days prior to the expiration date of the permit term and a disposal facility to submit a permit renewal application at least one year before the expiration date. To address applications received near the effective date of the final-form regulations that could not meet the new requirements, the final-form regulation provides that renewal applications for permits that will expire within 270 days and 1 year, respectively, of the effective date of the final-form rulemaking need only be submitted within 180 days of their expiration date.

Subchapter E. Bonding and Insurance Requirements

Section 287.301. Scope.

One commentator suggested that the requirement to bond and the bonding rates should be reconsidered for composting since these facilities are "recycling" wastes and do not accept a wide variety of wastes. The bonding requirements are based upon the total estimated cost to the Commonwealth to complete closure and to take measures necessary to prevent adverse effects upon public health and the environment. Under the SWMA, the minimum bond amount mandated for a processing facility individual permit is $10,000. For composting facilities,

the vast majority of the costs are associated with the cost to dispose of the compost in the event that material cannot be sold. The bond amount is based on the volume of waste approved to be received at the facility. If a person applies for a general permit for processing that results in beneficial use of waste, it may be possible to obtain a waiver of the bond requirement if the waste managed is not potentially harmful and large quantities of waste are not stored.

Section 287.313. Form, term and conditions of the bond.

One commentator suggested that the regulations should provide additional mechanisms for securing a bond for a residual waste facility, such as the use of a financial test to demonstrate the ability of a company to satisfy the obligations. The financial test option, like the one identified in the federal regulations for municipal waste landfills at 40 CFR Part 258 Subpart G, is not available under section 505 of the SWMA.

Section 287.321. Special terms and conditions for surety bonds.

Subsection (b) has been modified on final-form rulemaking. First, language has been deleted to be consistent with a repealer in the laws relating to casualty insurance. 40 P. S. § 730, which provided for foreign companies, associations and exchanges to do business through resident agents, was repealed December 21, 1998 (P. L. 1108, No. 150).

Secondly, language has been added that requires surety bonds for facilities permitted after the effective date of these regulations and permit modifications issued after the effective date of these regulations to be listed in Circular 570 of the United States Department of Treasury. If the surety is removed from the Circular, the bond issued by such surety must be replaced. The Federal government uses different, more comprehensive standards to qualify a surety than the State Insurance Commission. The listing and bond replacement requirements are consistent with federal requirements for both municipal waste landfills and hazardous waste facilities.

Section 287.332. Bond amount adjustments.

On final-form rulemaking, the Board added language to subsection (b)(2) that allows the Department to require additional bonding at the time of a bond replacement if the bond being replaced is inadequate to protect human health and the environment.

Section 287.341. Release of bonds.

One commentator indicated that the duration a bond must be maintained creates hardship for business. The hardship relates to the time after completion of closure activities that the bond must be maintained and the burden of proof that must be provided for bond release. The Board continues to support the existing regulations that provide for partial bond releases based upon completion of bonded activities. The new language does not change the conditions for bond release but indicates that long-term maintenance of remediation measures, such as groundwater pumping and treating to maintain the remediation standard, need to be considered in the postclosure portion of the bond amount.

On final-form rulemaking, the Board changed the phrase "completion of a stage of closure" in subsection (b)(3) to "completion of a measure carried out in preparation for closure" to avoid confusion, as "closure" is the point at which the entire facility permanently ceases to accept waste. Areas of the facility may not be used for further waste disposal during operations, but these areas are integrated together for the purpose of closure.

Section 287.342. Final closure certification.

One commentator suggested that the regulations should be modified to allow for pathway elimination where there is no current or projected future use of groundwater at the property boundary and where modeling demonstrates that there is no risk to the public (that is, incorporate the concept of nonuse aquifer). The nonuse aquifer option is not included in the final-form rulemaking because the Board decided that permitted facilities should minimize offsite migration of contamination. A facility that is operating in accordance with state-of-the-art performance and design standards is subject to early warning monitoring requirements that should prevent contamination from leaving the facility's property.

One commentator indicated that the proposed language in subsection (i) adds burden to the business that has completed remediation and is eligible for a bond release. Subsection (i) requires additional remediation if changes in land use or chemical exposure data cause an increase in the level of risk beyond the acceptable range at a facility. If the remediation standards identified for final closure certification are attained and maintained, the Department will release a bond no later than 10 years after the certification. The Board continues to maintain support, however, for requiring additional remediation if the risks to the community change while the permittee is in control of the facility.

One commentator recommended the adoption of the standards in Act 2 and the reference in section 501 of Act 2 to release from liability upon completion of remediation activities. The final-form regulations incorporate the numerical remediation standards of Act 2 for groundwater, with the exception of the nonused aquifer standards (as discussed above). The SWMA does not authorize relief from liability prior to bond release. Bond liability, alone, under section 505 of the SWMA remains in place for the duration of the waste management operation and for a period of up to 10 full years after the final closure of the permit site.

On final-form rulemaking, the Board added a definition for "property boundary" in new subsection (j) to clarify a point in time when the point of compliance cannot be extended by purchasing additional property to avoid remediation.

Subchapter F. Civil Penalties and Enforcement

Section 287.413. Assessment of penalties; minimum penalties.

One commentator recommended that the regulations should be changed to allow the Department to reduce or eliminate penalties for violations discovered by the applicant under a voluntary system of audits and inspections conducted by the applicant, provided the violation is promptly reported to the Department and voluntarily and promptly corrected by the applicant. The Department has a policy, titled "*Policy to Encourage Voluntary Compliance by Means of Environmental Compliance Audits and Implementation of Compliance Management Systems*," (technical guidance document number 012-0840-001) that addresses the reduction or elimination of penalties for violations discovered by the applicant pursuant to a voluntary audit system.

On final-form rulemaking, the Board added a provision to subsection (c) that clarifies the minimum penalty for a

person that applies residual waste to an area that is not permitted. The penalty is $500 per acre, or portion thereof.

Section 287.421. Administrative inspections.

One commentator indicated that beneficial use approvals should not be classified as permits. Under the residual waste program, there are no beneficial use approvals. Beneficial uses are covered under either permits-by-rule or general permits-both of which are types of permits.

Subchapter G. Demonstration Facilities

Section 287.501. Scope.

One commentator indicated that the proposed changes to the regulations didn't go far enough to reduce the permitting burden for R&D operations. Another commentator supported the changes made to this section. The Board declined to make further revisions to this section. Adequate flexibility in permitting was expressed in the proposed amendments.

Section 287.502. Relationship to other requirements.

The Board added a requirement that the public notice requirements of § 287.151 (relating to public notice by applicant) may not be waived or modified.

Subchapter H. Beneficial Use

Section 287.611. Authorization for general permit

One commentator was concerned that the Department eliminated the opportunity to beneficially use residual waste at disposal facilities (that is, as daily cover). The use of residual waste as alternative daily cover continues to be encouraged; however, the mechanism for approving the use of the waste is an equivalency review, not a general permit.

The Board amended subsection (d) to clarify that a general permit for processing or beneficial use of combinations of sewage sludge and residual waste shall be issued under Chapter 271, Subchapter I (relating to beneficial use) of the municipal waste regulations.

Section 287.621. Application for general permit.

On final-form rulemaking, the Board added in subsection (b)(5)(vi) a criterion for demonstrating the use of waste as a construction material. The criterion requires that a description of the construction activities and detailed timelines for the prompt completion of construction activities be included in the demonstration. This language addresses problems encountered by the Department where persons placed waste on land with no subsequent beneficial use.

Section 287.623. Public notice and review period.

One commentator suggested that the regulations be amended to require the publication of a list that is codified of approved general permits. The Department publishes notice in the Pennsylvania Bulletin of each general permit issued. In addition, the Department maintains a complete list of each general permit issued on its website.

Section 287.632. Waiver and modification requirements.

On final-form rulemaking the Board added language that clarifies the Department's intention not to waive the permit application requirements in § 287.123 pertaining to the Commonwealth's right of entry and the landowner's consent to solid waste activities. Although the requirements of this section cannot be waived, the Department may modify the requirements. Circumstances relating to imminent sale of property present an example of when the Department has modified the requirements in an effort to work with the existing and future landowners to meet the regulatory obligations of a landowner.

Section 287.662. Use of coal ash as a soil substitute or soil additive.

One commentator recommended that the regulations be revised to be consistent with the changes proposed in § 287.661. On final-form rulemaking, the Board modified the distance limitation from a water source, to be consistent with § 287.661. This change was made because the buffer requirement in the final-form regulations provides that adequate protection and other controls, such as erosion and sedimentation requirements, must be met at these sites to protect water. In addition, when coal ash is mixed with soil for use as a soil additive or soil substitute, there is less concern about the potential for contaminants to leach into groundwater. The Board declined to make changes to the exceptional wetland provision in this Section because the existing buffers are necessary to protect these sensitive areas from coal ash runoff.

Chapter 288. Residual Waste Landfills

Subchapter B. Application Requirements

Section 288.112. Facility plan.

The Board added language in paragraph (2) to require the permit application for a residual waste landfill to include a description of the method by which the soil necessary for construction and operation will be delivered. If soil is not located on-site, the traffic, access roads, and other impacts need to be evaluated when performing the environmental assessment process.

One commentator questioned whether the proposed language indicates that only soil may be used for construction. This restriction is not indicated; § 288.232 allows the permit applicant to propose other materials for daily cover if they meet the performance standards through an equivalency review.

One commentator suggested that replacement language for the deleted soil cover provision contain a requirement for the permit applicant to indicate how the estimated soil quantities will be provided. The Board agrees and added language that requires the applicant to identify how the estimated soil quantities will be provided. This may be important when considering traffic and other factors evaluated in the environmental assessment.

One commentator requested that the requirement for the facility plan to predict the origin of wastes to be received at the facility be deleted. The Board declined to delete this requirement since information on waste location origins will help determine access routes to the facility, which need to be evaluated during the environmental assessment.

Section 288.113. Maps and related information.

One commentator suggested that the requirement in § 288.113 (a)(3) and (5) to identify offsite borrow areas be deleted; and to either delete the requirement to identify and map all wetlands within one quarter mile, or modify the requirement to apply only to wetlands located within 300 feet or within the "adjacent area." The Board declined to make these changes since the requirement to identify borrow areas or describe how soil will be obtained from off-site sources if specific borrow areas are not used is an important factor in evaluating impacts from the facility. Similarly, the existing requirement to identify all wetlands within 1/4 mile of the proposed facility is used

to help characterize the surface and groundwater conditions in the adjacent areas, which may be impacted by the facility.

Section 288.122. Geology and groundwater description.

The Board added language in subsection (a)(9) to allow the Department to require more frequent water level measurements after significant precipitation events. This information is necessary if the monthly measurements required by the regulations do not adequately represent the highest possible water levels which are needed to design the site.

Two commentators suggested that the duration and frequency of water level measurements was unreasonable as a preapplication obligation. One of these commentators also indicated that the required groundwater contour map should be made from measurements obtained during the same month, not the highest measurement obtained from a particular well. The Board declined to make changes to address the first issue, since water level measurements obtained over the course of a year, and after significant precipitation events, are the only way to determine the inherent periodic and seasonal groundwater fluctuations that occur at most sites. The Board agrees with the second issue but no changes to the Annex are necessary because the error was in the preamble explanation of how the contour map would be used. The contour map is only used to determine appropriate liner system isolation distances from the regional water table, and cannot be used to depict groundwater flow patterns.

One commentator requested clarification on the purpose, construction and duration of the borings used to measure water levels. The Board declined to modify the regulations to address this issue, as the specifics of borehole construction and maintenance may be tied to conditions unique to each facility. These details are routinely decided based upon discussions with the Department during the background groundwater characterization and monitoring process.

Section 288.127. Mineral deposits information.

The Board amended the language in subsection (b) to remove the ambiguity of the term mineable mineral deposits and instead apply the restrictions to mineable coals, which is the mineral most likely to be mined. An exception to the restrictions is provided for surface mining activities approved in the permit for purposes of facility construction.

Two commentators suggested that owners of captive residual waste facilities not be exempt from the requirements of this subsection. The Board agrees and has deleted the exception for expansions of captive facilities.

One commentator suggested that the evaluation of potential mine subsidence risks and the preparation of a mineral support plan be limited only to areas of actual disposal and leachate storage. The Board declined to make this change since mine subsidence adjacent to the disposal area could affect the liner and groundwater monitoring systems.

Section 288.128. Notification of proximity to airport.

The Board has amended this section to require that the applicant notify the Bureau of Aviation of the Department of Transportation, the Federal Aviation Administration and the airport if a proposed landfill that accepts putrescible waste or lateral expansion is within 6 miles of an airport runway. This was added to be consistent with the municipal waste regulations and will assist the Department in determining whether construction of the facility or modification thereof would be safe. If any of the respondents expresses safety concerns, the applicant will generally be required to submit a mitigation plan under § 287.127 (relating to environmental assessment), at a minimum.

Section 288.132. Operation Plan.

One commentator suggested that the operation plan not be required to identify proposed hours for construction and other activities unrelated to the actual acceptance of waste for disposal. The Board declined to make this change since the term "operate" includes the construction phase and activities relating to the receipt and disposal of waste. It is necessary to consider hours for construction and other activities when developing nuisance control plans and when performing the environmental assessment analysis. On final-form rulemaking, minor clarifying language has been added to indicate that procedures for inspection and monitoring of incoming waste must be included in the operation plan of a permit application.

Section 288.133. Map and grid requirements.

The Board has added a requirement in new subsection (a)(14) that an application for a noncaptive residual waste landfill indicate on the topographic map a designated area for vehicles for use in the event of the detection of waste containing radioactive material. As with other requirements in this subchapter, this requirement applies to all permit applications, not just applications for new facilities. A transition schedule has been developed in § 287.135 (relating to transition period for radiation monitoring) for existing facilities to come into compliance with this regulation. The designated area must protect the environment, facility staff and public from radiation originating in the vehicle. The Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, describes various factors to consider in determining an appropriate designated area.

One commentator suggested eliminating the requirement for a permanent benchmark for horizontal and vertical control of the grid coordinate system. The Board declined to make this change since it is needed for proper construction and final elevation contours. Design requirements, such as subbase elevation, rely upon the map and grid requirements as baseline measurements.

Section 288.134. Plan for access roads.

One commentator suggested the term "adequately handle" was vague as a requirement for the ability of an access road to handle truck traffic. The Board agrees and deleted this provision from the application requirements.

One commentator questioned if the plans for access roads should comply with a Department of Transportation standard. The Board declined to address this issue since a Department of Transportation standard is not necessary. All plans submitted to the Department are certified by a professional engineer and are designed based upon expected use.

Section 288.136. Nuisance minimization and control.

One commentator suggested deleting the requirement for prior approval of installation of meteorological data collection equipment. The Board declined to make this change since input prior to the installation and collection of data prevents the operator from conducting preapplication monitoring that may prove to be incomplete.

One commentator requested clarification on what constitutes a "professional" in regard to nuisance minimiza-

tion and control, and if certification is required. Certification is not required for plan development, but persons preparing a nuisance and control plan should be familiar with the technical standards of the activities addressed by the plan.

Section 288.138. Daily volume.

One commentator suggested establishing separate volume limits for alternative cover materials and waste received for recycling. The Board declined to change this since any waste received at a disposal facility must be factored into measured volumes for environmental assessment considerations, such as traffic.

One commentator requested allowing daily volume limits to be exceeded in emergencies or unusual weather conditions. Section 287.103 (relating to emergency disposal or processing) does provide for emergency disposal to address this issue, however.

Section 288.139. Radiation protection action plan.

The Board has added a new Section in the final-form rulemaking requiring that an application for a noncaptive residual waste landfill contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, record keeping and reporting. As with the other requirements of this subchapter, this requirement applies to all permit applications, not just applications for new facilities. A transition schedule has been developed in § 287.135 (relating to transition period for radiation monitoring) for existing facilities to come into compliance with this regulation. The action plan must be incorporated into the landfill's approved waste analysis plan, under § 287.134 (relating to waste analysis plan). The permit modification will be a major modification. The action plan must be prepared in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001 or in a manner at least as protective of the environment, facility staff and public health and safety and which meets all statutory and regulatory requirements.

An approved action plan will specify the radiation exposure rate, in accordance with these regulations and the foregoing guidance document, at which the facility's radiation detection monitors will indicate the presence of radioactive material in waste in accordance with § 288.222 (relating to radiation monitoring and response). A waste load that does not trigger a radiation monitor will need no further action regarding radioactive materials screening. A waste load that does trigger a radiation monitor may only be accepted at the landfill if it is within the acceptable range approved in the action plan in accordance with these final-form regulations and the operator obtains additional written approval of the Department for that particular waste load. The Department's written approvals will be decided for that particular waste load. The Department's written approvals will be decided situation by situation or in advance in the facility's approved action plan. The Department will not authorize any waste containing radioactive material to be accepted at a landfill if it is above regulatory limits or if its disposal would endanger the health and safety of the public or the environment.

Section 288.142. Revegetation plan.

One commentator suggested that any required revegetation not be inconsistent with the postclosure land use plan. The Board declined to amend the existing requirement, since postclosure land use may not be realized for many years after the facility operates. Therefore, a revegetation plan is necessary in the event that the land use plan cannot be implemented immediately upon construction of the cap and final cover.

Section 288.152. Water quality monitoring plan.

One commentator suggested modifying the plan to be consistent with federal Subtitle D regulations (40 CFR Part 258, Subpart E). The Board declined to modify this Section since 40 CFR Part 258 Subpart E provides for less stringent monitoring frequency than that provided in § 288.152. Additionally, adopting 40 CFR Part 258 Subpart E would incorporate definitions found in other sections of 40 CFR which are not consistent with analogous terms in the final-form rulemaking.

Section 288.182. Closure plan.

Two commentators suggested revising the term "toward and after closure" and allowing the definition of "closure" to allow for temporary closure. To provide clarification, the Board replaced the phrase "toward and after closure" with "in preparation for closure and after closure." The Board decided not to allow, however, the definition of "closure" to include temporary closure. "Closure" is the point at which the entire facility permanently ceases to accept waste. It happens only once at a landfill. Under the final-form regulations, the application shall contain a plan describing the activities that are proposed to occur in preparation for closure and after closure and a narrative description of the measures that are proposed to be carried out.

Section 288.191. Plan for disposal of PCB's.

The Board added language to § 288.191(b) to clarify that the disposal of certain PCB-containing wastes, as described in the disposal plan, is only applicable to Class I or Class II residual waste landfills. Disposal at Class III, or unlined residual waste landfills, would not be permitted.

Subchapter C. Operating Requirements

Section 288.201. Basic limitations.

This Section has been revised in the final-form rulemaking to specify clearly the types of radioactive materials that might be found in the residual waste stream that may not be accepted at a residual waste landfill.

Subsection (g) lists six types of radioactive materials that are controlled under specific or general license or order. These may not be accepted unless they are specifically exempted from disposal restrictions by an applicable Pennsylvania or Federal statute or regulation.

The first type, in paragraph (1), is NARM, which includes naturally occurring and accelerator produced radioactive material. Examples of NARM are radium, potassium-40, various isotopes produced in accelerators, such as cobalt-57, and members of the uranium-238 and thorium-232 decay chains when they don't meet the requirements for source material or special nuclear material.

Paragraph (2) prohibits disposal of by-product materials. These are produced by nuclear fission, or otherwise, in the nuclear energy cycle. Prominent examples are cesium-137 and strontium-90.

Paragraph (3) prohibits disposal of source material which, by definition, is uranium and/or thorium present at a combined concentration, by weight, of 0.05% or more. Examples are uranium ores and slags produced by smelting rare metal earth ores containing uranium and thorium.

Paragraph (4) prohibits disposal of special nuclear material, which includes those isotopes of uranium and plutonium that will split, or fission, when struck by neutrons. Examples of special nuclear material include uranium-233, uranium-235, and plutonium-239.

Paragraph (5) prohibits disposal of transuranic radioactive materials, which include all elements with an atomic number greater than 92 (92 = uranium). Examples include neptunium, plutonium, americium, curium, californium, berkelium, einsteinium, fermium, mendelevium, and others. Transuranic elements do not occur naturally and are produced in high energy accelerators.

Paragraph (6) prohibits disposal of low-level radioactive waste. A definition of low-level radioactive waste is contained in section 130 of the Low Level Radioactive Waste Disposal Act (35 P. S. § 7130.130).

Subsection (h) lists three categories of radioactive materials that are prohibited from being accepted at a residual waste landfill unless approved in writing by the Department and the disposal does not endanger the environment, facility staff or public health and safety.

The first radioactive material, in paragraph (1), is short-lived radioactive material from a patient having undergone a medical procedure. Certain short-lived radioactive materials are administered to medical patients for diagnosing or treating some illnesses. Once these materials are administered to the patient, they no longer fall under NRC or Pennsylvania licensing. Some of the material is retained in the patient and some is excreted in urine, feces, sweat, saliva or mucous and may get into solid waste through disposal of personal care items. The Department's intent is to authorize such material to be disposed in waste facilities upon case-by-case permission from the Department's Area Health Physicists or Director of the Bureau of Radiation Protection, or advance authorization in the landfill's approved action plan, using the general concepts provided in the Department's *Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*, Document Number 250-3100-001.

Paragraph (2) addresses TENORM, which is naturally occurring radioactive material which has been altered by human activity in a manner that results in increased radiation exposure to people. The alteration could be a chemical or physical change in form, relocation of the norm, or removal of barriers that isolated the norm. The Department's intent is to authorize disposal of TENORM in landfills only in amounts and concentrations that will not result in concentrations of the NORM isotopes significantly above local background. Authorization will be given as case-by-case permission from the Area Health Physicists or Director of the Bureau of Radiation Protection, or advance authorization in the landfill's approved action plan.

Paragraph (3) addresses consumer products containing radioactive material. Some consumer products, such as smoke detectors, luminous dial clocks and watches, or some ceramics will wind up in the waste stream. The Department intends to allow disposal of small quantities of these under conditions specified in the facility's approved action plan or on a case-by-case basis with permission from the Area Health Physicist or Director of the Bureau of Radiation Protection.

Subsection (i) provides that the limitations set forth in this Section will not apply to radioactive material as found in the undisturbed natural environment of this Commonwealth. The original soil and rock in many parts of this Commonwealth contain sufficient uranium, thorium, radium and potassium-40 to cause monitors to alarm even at quite high settings. This provision ensures that facilities may use soil and rock from undisturbed sites for cover, regardless of the content of radioactive material.

One commentator requested not to restrict the authority of the Department to allow mitigation activities to be conducted at the same time as waste acceptance only for "technical reasons" (subsection (f)). The Board declined to make changes in this subsection since allowing mitigation for technical reasons are the only items which can be resolved through proper design and operation. Mitigation measures are part of an approved application. Information provided in the application is incorporated into a permit issuance. Because mitigation is used to balance an environmental harm, it must be implemented immediately unless a technical design or operating reason is identified.

Section 288.211. Signs and markers.

One commentator requested that the name, address and telephone number of the operator of the facility be retained on the facility sign. The Board agrees and retains the name, business address and telephone number of the person or municipality that operates the facility, the operating hours and the permit identification number.

Section 288.212. Access control.

The requirement in subsection (a)(2) to "construct" a fence or other suitable barrier around the areas of operation has been deleted on final-form rulemaking because no "construction" is necessary in instances where a natural barrier is sufficient to prevent unauthorized access.

Section 288.214. Measurement and inspection of waste.

Subsection (a) has been amended to reflect the repeal of the Weights and Measures Act of 1965 and the Public Weighmasters Act of 1961. Both acts were replaced with the Consolidated Weights and Measures Act of 1996, 3 Pa.C.S. §§ 4101—4194.

Subsection (c) has been amended to delete the requirement to monitor and inspect incoming waste for radioactive isotopes. This requirement was refined and moved to §§ 288.133, 288.139, 288.222, 288.281 and 288.283. Similar provisions appear in Chapters 289, 293, 295 and 297 and a transition schedule appears in § 287.135.

Section 288.217. Air resources protection.

The Board clarified in subsection (b) that an air quality plan approval and air quality operating permit are issued under Chapter 127 (relating to construction, modification, reactivation and operation of sources).

One commentator suggested that the Board clarify and better define air resources protection by requiring a plan in the waste management regulations which addresses odors, fugitive particulates, emissions from biological decomposition, etc. The Board declined to make changes in this regard since the current air quality plan (required before a landfill can accept waste), approved through the Department's Bureau of Air Quality Control, provides controls for odor, fugitive emissions, non-methane organic carbons and any other pollutants as required.

Section 288.218. Nuisance minimization and control.

The Board amended subsection (b) to require the operator to minimize and control "public nuisances" from

odors. The proposed subsection had only referenced "nuisances". Subsection (b) is now consistent with subsection (c). Similarly, to harmonize subsection (b) with (c), the requirement was added that the operator implement the plan approved under § 288.136 (relating to nuisance minimization and control plan). The Board did not revert to the "prevent and eliminate" language of the prior regulation as suggested by several commentators because field experience shows that nuisances cannot always be prevented. Finally, the Board reversed the order of subsections (b) and (c) for clarity.

One commentator suggested the term "odors" be replaced with "malodors". The Board declined to make this change since all odors need to be reduced to the greatest degree possible under the nuisance minimization and control plan as they have the potential to impact the surrounding receptors.

Section 288.221. Daily volume.

One commentator suggested that average daily volume not be the subject of a compliance obligation. Limits subject to enforcement should only include maximum daily volume and annual volume. The Board declined to make this change, since many of the operating details to address nuisances are based upon the volume of waste that would normally be received on a daily basis. The average daily volume is based on the total volume of waste received over the year.

Section 288.222. Radiation monitoring and response for noncaptive landfills.

A new § 288.222 has been added to this final-form rulemaking to address monitoring for and responding to radioactive materials in residual waste in noncaptive landfills. Subsection (a) requires the facility operator to implement the action plan approved under § 288.139 (relating to radiation protection action plan). Subsection (b) requires the operator to monitor in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001 (or in an equally protective manner) the facility's approved radiation protection action plan and this section. Subsection (c) describes the required sensitivity of the monitors and establishes the maximum level of radiation at which they must be set to alarm. In addition to the monitors described in subsections (b) and (c), portable radiation monitors that can determine the radiation dose and the presence of contamination on a vehicle that has caused an alarm are required by subsection (d). When radiation is detected at a landfill and the alarm exceedance is confirmed, the operator must perform a radiological survey of the vehicle. If a dose rate specified in subsection (e) is detected, the operator must notify the Department immediately and isolate the vehicle. Once notified, the Department staff, and possible staff from federal agencies, will assist the facility and its consultants in identifying, localizing and quantifying the radioactive material in the load. This is a stepwise investigative process that will ultimately determine what corrective action is needed.

To ensure that the monitoring equipment continues to function properly, subsection (f) requires that it be calibrated at least once a year—and more often if so specified by the manufacturer.

Subsection (g) notes the Federal requirement that, once the presence of radioactivity is detected (that is, above Action Level I, as described in the guidance document), the vehicle is not permitted to leave the facility with the material on board without written Department approval and an authorized United States Department of Transportation exemption form issued by the Department. The exemption forms will usually be issued by telephone or FAX communication for levels between Action Level I and the Action Level II limits specified in subsection (e).

Section 288.231. Topsoil storage.

While this section was proposed to be deleted, one commentator suggested that it may be more appropriate to modify this section to address topsoil used as part of a cap. The Board decided to delete this section as proposed since the design and performance standards for the final layer of soil placed over a cap are found in § 288.234 (relating to final cover and grading).

Section 288.232. Daily cover.

One commentator suggested that the term "noncombustible" be retained, as opposed to the proposed "capable of controlling fires", as a performance standard for daily cover material. The Board decided not to revert to the original language. Technically, no material is truly "noncombustible". "Capable of controlling fires" is just one of several performance standards that daily cover must meet or exceed. Also, the Department is unaware of any problems with approved alternate daily cover requests.

Section 288.233. Intermediate cover and slopes.

One commentator questioned a seemingly contradictory requirement of a material supporting vegetation and controlling infiltration. The Board declined to make any changes in this regard. Infiltration can be controlled by the cover material. The moisture holding capacity retains moisture that is then used by the vegetation that is established.

Section 288.234. Final cover and grading.

The Board amended subsection (b) to clarify the demonstration provisions for waiving the cap and drainage layer requirements. This includes a demonstration that leachate production without a cap will be equivalent to leachate production with a cap, and that waiver of a cap will not cause or contribute to groundwater degradation as a result of leachate production. These provisions will help address the most important environmental impacts considered when evaluating a waiver of the cap and drainage system requirements.

Two commentators questioned the proposed requirement that the cap should limit the migration of precipitation into the landfill to the greatest degree technologically possible. The Board agrees and deleted the requirement.

One commentator suggested that the minimum and maximum slopes be revised to match engineering capabilities. The Board declined to change the regulations, however, since § 288.234(h) allows the permit applicant to design with any slope, as long as the applicant demonstrates that the performance standards will be met. Steeper slopes are, however, not routinely constructed at residual waste landfills.

Section 288.252. Number, location and depth of monitoring points.

One commentator suggested retaining the requirement for well drillers to be licensed under the Water Well Drillers License Act (32 P. S. §§ 645.1—645.13). The Board agreed and retains the requirement for well drillers to be licensed.

Section 288.253. Standards for wells and casing of wells.

The Board amended subsection (a) to allow for alternative well casing designs in stable formations, if approved

by the Department. This provides some design flexibility based upon certain lithologic characteristics (stability and "tightness") of the formations under the site.

The Board also amended subsection (b) to clarify a concern raised by one commentator regarding well casing. The requirements in this subsection are applicable to the outer protective casing of the monitoring well, not the well casing itself.

Section 288.254. Sampling and analysis.

The Board amended this section to change magnesium from an annual testing parameter to a quarterly parameter. This places magnesium among the more frequently measured metals which are effective early indicators of liner leakage or failure, and removes it from the generally more dissimilar metals included in the annual testing list.

Section 288.257. Abatement plan.

Several commentators expressed a general concern that the groundwater abatement requirements do not fully parallel those provisions available in Act 2. The Board declined to change the abatement language from the proposed revisions. The residual waste abatement standards apply to operating facilities, which by design and practice are engineered to prevent contamination of groundwater. Conditions at the landfill are not static: waste continues to be received and the area of disposal may expand. More stringent standards than those available under Act 2 are needed to address the operational dynamics of such a waste management facility. This contrasts with an Act 2 site, typically an abandoned facility, not designed to properly contain waste or manage groundwater, where the property boundaries have been established for years. At final closure, when the dynamics of the operating landfill are static and the property boundaries established, Act 2 remediation standards and the points of compliance are available.

Two commentators expressed concern regarding establishing points of compliance for abatement standards at 150 meters from the perimeter of the disposal area, or the property boundary (whichever is closer), citing a conflict with Act 2. The Board declined to adjust the points of compliance where abatement standards are to be met. The abatement standards are similar to both Act 2 and RCRA Subtitle D corrective action requirements. Meeting abatement standards at the closer point (150 meters from the perimeter of the disposal area or at the property boundary) reflects the performance and design standards of the operational facility designed to detect, assess, and abate groundwater contamination as appropriate. The remediation points of compliance, at closure, are consistent with Act 2.

Two commentators questioned conditions defining the availability of a risk-based standard, citing a conflict with Act 2. The Board declined to change the conditions when use of a risk-based standard is available. Act 2 allows a more unrestricted use of the risk-based standard since many remediation sites are closed/abandoned and the adjacent property use is well known. These conditions, which are factored into the risk assessment, are less predictable during the operational lifetime of a residual waste management facility. At final closure, when these conditions have become more clearly established, use of the Act 2 site-specific standard is available. In addition, use of a risk-based standard is available for certain constituents (where no MCL exists), which include certain assumptions designed to prevent unacceptable risks off the site of the landfill.

One commentator suggested that Act 2-like flexibility should be included to extend the point of compliance beyond the property boundary. The Board declined to adopt the Act 2 provisions (§ 250.302(a)) to extend the point of compliance for a residual waste landfill. Unlike an Act 2 site, a residual waste landfill is designed, constructed, operated and closed in a manner which restricts groundwater contamination, and exposure pathways are less known while the facility continues to accept waste. These conditions are not conducive to allowing the point of compliance to be extended for the primary constituents. There is some flexibility to extend the point of compliance for secondary contaminants during an abatement process, as long as it is on land owned by the owner of the disposal area. After closure, when conditions are more predictable, the Department may approve a compliance point for secondary contaminants beyond the property boundary, up to a water source.

Section 288.262. Gas control and monitoring.

Subsection (f) has been modified on final-form rulemaking to indicate that active forced ventilation is necessary to reduce the migration of combustible gas or prevent offsite odors.

Section 288.271. Hazard prevention.

One commentator recommended that subsection (b) be retained and the term "facilities" be changed to "equipment and supplies." The Board declined to retain this subsection. Part of the Pollution Prevention Compliance (PPC) plan submitted by the applicant identifies first aid equipment and procedures.

Section 288.281. Daily operational records.

Subsection (b)(8)(iv) has been added on final to require information to be kept in the daily record describing radioactive materials detected in waste loads. This information will be helpful to the operator, the municipality and the Department. If the origin of the material is known, it will be stated in the daily record, along with the identity of the supplier or handler of the radioactive material and the driver. Identifying these parties will enable the operator and the Department to take steps to prevent inappropriate distribution of radioactive material in the future. The final disposition of the material is also required to be stated in the daily record. This will help the operator, the municipality and the Department know that the material will be properly disposed.

Subsection (b)(8)(v) has been added on final to require a landfill operator to identify vehicles that have arrived at the landfill over the maximum gross weight allowed on Pennsylvania's roadways under, section 4941 of the Vehicle Code (relating to maximum gross weight of vehicles). This requirement is designed to help reduce the number of overweight waste vehicles travelling on roadways of this Commonwealth. While the Department will not use this part of the daily operational record to institute a direct enforcement action against a waste hauler for exceeding a roadway weight limit or against a waste facility for accepting an overweight vehicle, the Department may use the information in enforcing the daily volume limits at the facility, in selecting locations for routine vehicle inspections and in taking other steps toward reducing the number of overweight waste vehicles.

Section 288.283. Annual operation report.

The Board amended subsection (b)(4) to delete the requirement to identify areas that are closed in the annual report because there is only one closure at the facility, i.e. that time at which the facility permanently

ceases to accept waste. Instead, subsection (b)(4) has been amended to require the operator to describe the acreage used for disposal, areas revegetated, and a narrative describing the operator's progress in implementing its closure plan.

To provide a summary of the daily operational recordkeeping regarding radioactive waste, subsection (b)(12) was added to require the annual report to include a record of detected radioactive materials.

Section 288.292. Closure.

The Board deleted the proposed requirement that requires acceptance of the operators selection of the remediation standards because the decision may be impacted by other closure considerations.

One commentator indicated that groundwater degradation should not dictate implementation of abatement or submittal of a closure plan modification regarding selection of remediation standards. The Board declined to amend this section. Although active groundwater remediation may not be necessary at the time of closure, if groundwater degradation exists, a closure plan must identify the remediation standards that will be met and maintained to meet the final closure certification.

Section 288.301. PCB's.

The Board has amended subsection (a) to clarify that PCB-containing waste material is prohibited from disposal at a residual waste landfill, if the waste material is prohibited from disposal at a municipal waste landfill by the Toxic Substances Control Act (15 U.S.C.A. §§ 2601—2629).

Section 288.302. Disposal of friable asbestos-containing waste.

The Board amended this Section to allow a distinction in timing and depth of covering between nonfriable asbestos-containing waste and friable asbestos-containing waste. The final-form rulemaking indicates that nonfriable asbestos-containing waste must be covered within 24 hours of placement with at least six inches of nonasbestos containing cover material. This requirement contrasts with friable asbestos-containing waste, which must be covered immediately after disposition and covered with at least 12 inches of nonasbestos containing cover material.

Subchapter D. Additional Requirements for Class I Residual Waste Landfills

Section 288.412. Liner system and leachate control plan.

Several changes were made to the final-form regulations in this section.

The Board amended the existing liner testing properties to reflect current liner compatibility testing procedures. The following properties were added: density, carbon black content, carbon black dispersion, stress crack resistance and oxidative induction time. The following properties were deleted: the modulus of elasticity, impact resistance, operating temperature range, ozone resistance, water vapor transmission, coefficient of linear thermal expansion and low temperature/brittleness.

One commentator questioned why the proposed regulations required percent recycled material as a testing property and suggested that it be deleted unless this information is relevant. The Board declined to make the change. The percent recycled material can vary significantly during the manufacturing of liners and can change the performance of the liner.

Section 288.422. Areas where class I residual waste landfills are prohibited.

Subsection (a)(4) was amended to indicate that the permittee, as opposed to the operator, must own the underlying coal. The section also removes the ambiguity of the proposed term "minerals" and instead maintains the restriction for "coal," which is the mineral most likely to be mined.

One commentator suggested that all setbacks be measured from areas used for disposal, processing, recycling or storage of solid waste, including the storage and treatment of leachate. The Board declined to make this change. All setback distances are measured from the facility boundary, in accordance with the statutory definition of "facility."

The Board has amended the isolation distance language in subsection (a)(7) relating to distances from occupied dwellings. Subsection (a)(7)(i) addresses operations at existing facilities. Under the final-form regulation, these facilities are subject to the old 300-foot setback. Disposal areas may not be closer than 500 feet except upon waiver by the owner of the dwelling.

Subsection (a)(7)(ii) addresses expansions of facilities where the facility was permitted before the effective date of this final-form rulemaking. Expansion of noncaptive landfills must be 900 feet from an occupied dwelling unless the owner provides a written waiver that meets the requirements of subparagraph (ii)(A), or the expansion will be on land owned by the applicant on the effective date of the regulations, subject to an enforceable option contract for purchase of the land on that date or purchased after the effective date of the regulations pursuant to an option contract entered into prior to the effective date (subparagraph (ii)(B). If the contract/option provision applies, the expansion may not be operated closer than 300 feet and the disposal area may not be within 500 feet of an occupied dwelling unless the applicant obtains a waiver as described in subparagraph (ii)(A).

New noncaptive landfills will be subject to the 900-foot isolation distance, unless they obtain a written waiver from the owner. A closed noncaptive landfill that submits an application to reopen and expand will also be subject to this paragraph.

Access roads are not subject to the 900-foot isolation distance. Under subsection (a)(7)(iv), access roads are subject to a 300-foot setback. While an increase in the setback to 900 feet from landfill activity is necessary to address issues such as noise, dust and odors, these issues can continue to be adequately addressed for access roads with a 300-foot setback. One commentator suggested that the setback distance required in subsection (a)(7)(iii) (subsection (a)(7)(ii) in the proposed amendments) be maintained at 300 feet, as the 300-yard setback is overly stringent and inconsistent with the brownfields initiative. The Board declined to amend this subsection. The requirement is drawn from the isolation distance in Act 101 of 300 yards from a school, park or playground for municipal waste landfills. In addition, most complaints from surrounding landowners deal with traffic, odors, dust and other nuisances that should be significantly reduced by the 300-yard isolation distance.

A new subsection (a)(11)(iii) was added to ensure that areas permitted on or after the effective date of the regulations would not be an obstruction to air navigation under 14 CFR 77.23 (a)(5) (relating to standards for determining obstructions). This will offer greater protection against intrusion into an airport's flight paths.

One commentator suggested that the airport isolation distance be measured from the disposal area, not the permit area. The Board declined to change this requirement since other permit areas at the landfill, such as leachate storage and treatment ponds, may attract birds and present a hazard to aircraft.

Section 288.432. General limitations.

The Board amended subsection (c) to clarify that in confined layers at least 8 feet shall be maintained between the bottom of the liner system and the level where groundwater occurs as a result of upward leakage from natural or other preexisting causes. The term "upward" was added to clarify the intent, which was questioned by one commentator.

The Board added requirements to clarify the construction of berms and the placement of waste in relation to the berms.

One commentator suggested allowing a reduction in the eight-foot regional groundwater separation distance based upon multiyear groundwater monitoring if the statistical probability of contact between the groundwater and the waste is not increased. The Board declined to allow this exception, since multiyear groundwater monitoring may be interpreted to mean only 2 or 3 years, which is a fraction of the working life of a disposal facility. Significant fluctuations in the regional groundwater table may occur at intervals outside the time frame used to derive these statistical predictions.

One commentator suggested that a minimum isolation distance between the liner and water table is unnecessary, as long as a drainage system is present to prevent contact between the two. The Board declined to adopt this suggestion, since field experience has shown that the 8-foot isolation distance has proven to be an effective buffer to account for fluctuations in regional groundwater levels. The commentator's suggestion does, however, apply to perched water zones and the seasonal high water table.

Section 288.434. Secondary liner.

The Board amended subsection (e) to incorporate the term "composite" instead of the term "lower" to clarify the characteristics of a composite secondary liner in cases where a primary composite liner is not designed, constructed, operated and maintained. This term is more consistent with Appendix A, Table I.

One commentator expressed concern that best available technology (BAT) requirements are being retained, and these are unnecessary since there is information that less than BAT liner designs for coal ash have no impact on groundwater. The Board declined to modify the requirements, since there is flexibility in the design requirements for a residual waste disposal facility to allow the design to be based on the chemical characteristics of the coal ash. If the coal ash meets Class III minimum requirements for acceptable waste, the facility may be unlined. Coal ash not meeting the Class III criteria must be disposed in a single or double-lined facility.

Section 288.435. Leachate detection zone.

The Board added clarifying language in subsection (e) regarding the amount of leachate per area that must be exceeded before additional measures are to be implemented. The 100 gallons per acre of lined area was modified to read lined collection area.

Section 288.436. Primary liner.

The Board amended subsection (d) to incorporate the term "composite" instead of the term "lower" to clarify the characteristics of a composite primary liner in cases where a secondary composite liner is not designed, constructed, operated and maintained. This term is more consistent with Appendix A, Table I.

One commentator suggested that facility designs should be able to demonstrate, with Department guidance on application of performance standards, that groundwater quality will not be adversely impacted. The Board declined to make amendments on this issue, since the regulations contain design and performance standards, and allow the operator the opportunity to make adjustments through the equivalency review process.

One commentator expressed concern that best available technology (BAT) requirements are being retained, and these are unnecessary since there is information that less than BAT liner designs for coal ash have no impact on groundwater. The Board declined to modify the requirements, since there is flexibility in the design requirements for a residual waste disposal facility to allow the design to be based on the chemical characteristics of the coal ash. If the coal ash meets Class III minimum requirements for acceptable waste, the facility may be unlined. Coal ash not meeting the Class III criteria must be disposed in a single or double-lined facility.

Section 288.438. Leachate collection system within protective cover.

The Board deleted the proposed requirement in subsection (a)(2), which allowed the leachate depth on the primary liner to exceed one foot in depth in certain instances, to be consistent with the municipal waste program.

The Board amended subsection (b)(4) to delete the requirement that stones or aggregates in the leachate collection zone be noncarbonate. The performance standards in subsection (a)(2) address this issue by requiring that the collection system be able to withstand chemical attack from the leachate.

One commentator suggested that there should be a requirement for at least two methods for leachate to flow to the low point of the landfill. The Board declined to make the change. The current design and performance standards for leachate removal are successfully being implemented at operating landfills.

Section 288.455. Leachate collection and storage.

The Board amended subsection (g) to apply the new requirements for the design of underground leachate pipes to facilities permitted after the effective date of the regulations. The new pipes must have secondary containment or comply with alternative methods of release detection identified in the underground storage tank regulations.

A commentator suggested that the 30-day leachate storage requirement allow more room for engineering mitigation. The Board declined to make the change because the 30-day storage requirement has proven to be necessary to ensure sufficient storage during adverse weather conditions or unforeseen leachate handling problems.

Two commentators indicated that the dual containment piping required in subsection (g) is excessive and proper performance can be assured through routine inspection. The Board amended subsection (g) to allow for alternative methods of release detection to be used.

One commentator questioned the need to require captive storage tanks or impoundments to meet The Clean

Streams Law if there is no point discharge from them. The Clean Streams Law prohibits the pollution of the waters of this Commonwealth, regardless of whether the source is a point or nonpoint discharge. All waste management activities must be in compliance with The Clean Stream Law.

One commentator questioned the need for pipes for leachate transport to have secondary containment at existing facilities. The Board amended subsection (g) to apply to the new requirements for the design of underground leachate pipes to areas permitted after the effective date of the regulations. The new pipes must have secondary containment or comply with alternative methods of release detection identified in the underground storage tank regulations.

Section 288.456. Leachate analysis and sludge handling.

The Board amended the proposed changes to subsection (a)(2) to not allow a reduction in the quarterly leachate chemical analysis testing requirements. It is necessary to have current information on the leachate quality to determine such things as the impact of the leachate on the liner system, the effectiveness of the leachate treatment system, and the need for additional groundwater monitoring.

Subchapter E. Additional Requirements for Class II Residual Waste Landfills

Section 288.512. Liner system and leachate control plan.

Several changes were made to the final-form regulations in this section.

The Board amended the existing liner testing properties to reflect current liner compatibility testing procedures. The following properties were added: density, carbon black content, carbon black dispersion, stress crack resistance and oxidative induction time. The following properties were deleted: the modulus of elasticity, impact resistance, operating temperature range, ozone resistance, water vapor transmission, coefficient of linear thermal expansion and low temperature/brittleness.

Section 288.522. Areas where Class II residual waste landfills are prohibited.

Subsection (a)(4) was amended to indicate that the permittee, as opposed to the operator, must own the underlying coal. The section also removes the ambiguity of the term "minerals" and instead maintains the restrictions to "coal," which is the mineral most likely to be mined.

One commentator suggested that all setbacks be measured from areas used for disposal, processing, recycling or storage of solid waste, including the storage and treatment of leachate. The Board declined to make this change. All setback distances are measured from the facility boundary, in accordance with the statutory definition of "facility."

The Board has amended the isolation distance language in subsection (a)(7). Subsection (a)(7)(i) addresses operations at existing facilities. Under the final-form regulation, these are subject to the old 300-foot setback. Disposal areas may not be closer than 500 feet except upon waiver by the owner of the dwelling.

Subsection (a)(7)(ii) addresses expansions of facilities where the facility was permitted before the effective date of this final-form rulemaking. Expansion of noncaptive landfills must be 900 feet from an occupied dwelling unless the owner provides a written waiver that meets the requirements of subparagraph (ii)(A), or the expansion will be on land owned by the applicant on the effective date of the regulations, subject to an enforceable option contract for purchase of the land on that date or purchased after the effective date of the regulations pursuant to an option contract entered into prior to the effective date (subparagraph (ii)(B). If the contract/option provision applies, the expansion may not be operated closer than 300 feet and the disposal area may not be within 500 feet of an occupied dwelling unless the applicant obtains a waiver as described in subparagraph (ii)(A).

New noncaptive landfills will be subject to the 900-foot isolation distance, unless they obtain a written waiver from the owner. A closed landfill that submits an application to reopen and expand shall also be subject to this paragraph.

Access roads are not subject to the 900-foot isolation distance. Under subsection (a)(7)(iv), access roads are subject to a 300-foot setback. While an increase in the setback to 900 feet from landfill activity is necessary to address issues such as noise, dust and odors, these issues can continue to be adequately addressed for access roads with a 300-foot setback.

A new subsection (a)(11)(iii) was added to ensure that areas permitted on or after the effective date of the regulations would not be an obstruction to air navigation under 14 CFR 77.23 (a)(5) (relating to standards for determining obstructions). This will offer greater protection against intrusion into an airport's flight paths.

One commentator suggested that the airport isolation distance be measured from the disposal area, not the permit area. The Board declined to change this requirement since other permit areas at the landfill, such as leachate storage and treatment ponds, may attract birds and present a hazard to aircraft.

Section 288.523. Minimum requirements for acceptable waste.

One commentator questioned the justification for the establishment of "waste classification standards". The Board indicates that the term "waste classification standard" has replaced the term "groundwater parameter." The waste classification standard is used to determine the minimum requirements for acceptable waste at landfills and disposal impoundments. The requirements for acceptable waste have been in place since 1992.

Section 288.532. General limitations.

The Board amended subsection (c) to clarify that in confined layers at least 8 feet shall be maintained between the bottom of the liner system and the level where groundwater occurs as a result of upward leakage from natural or other preexisting causes. The term "upward" was added to clarify the intent, which was questioned by one commentator.

The Board added requirements to clarify the construction of berms and the placement of waste in relation to the berms.

One commentator suggested allowing a reduction in the eight-foot regional groundwater separation distance based upon multiyear groundwater monitoring if the statistical probability of contact between the groundwater and the waste is not increased. The Board declined to allow this exception, since multiyear groundwater monitoring may be interpreted to mean only two or three years, which is a fraction of the working life of a disposal facility. Significant fluctuations in the regional groundwater table may occur at intervals outside the time frame used to derive these statistical predictions.

One commentator suggested that a minimum isolation distance between the liner and water table is unnecessary, as long as a drainage system is present to prevent contact between the two. The Board declined to adopt this suggestion, since field experience has shown that the 8 foot isolation distance has proven to be an effective buffer to account for fluctuations in regional groundwater levels. The commentator's suggestion does, however, apply to perched water zones and the seasonal high water table.

Section 288.534. Leachate detection zone.

The Board added clarifying language in subsection (e) regarding the amount of leachate per area that must be exceeded before additional measures are to be implemented. The 100 gallons per acre of lined area was modified to read lined collection area.

Section 288.535. Liner.

The Board amended the language regarding liner requirements in subsection (c) to replace the term "lower" with the term "composite." This term is more descriptive and consistent with Appendix A, Table I.

Section 288.537. Leachate collection system within protective cover.

The Board deleted the proposed requirement in subsection (a)(2) which allowed the leachate depth on the primary liner to exceed 1 foot in depth in certain instances. This change was made to be consistent with the municipal waste landfill requirements.

The Board amended subsection (b)(4) to delete the requirement that stones or aggregates in the leachate collection zone be noncarbonate. The performance standards in subsection (a)(2) address this issue by requiring that the collection system be able to withstand chemical attack from the leachate.

One commentator suggested making revisions to allow the leachate depth to exceed one foot under certain conditions. The Board had deleted the proposed requirement in subsection (a)(2), however, since it is inconsistent with the federal landfill requirements that implement Subtitle D of RCRA. The leachate collection system should be designed to handle the removal of leachate from storm events without exceeding the 1-foot maximum depth of leachate on the liner.

One commentator suggested that there should be a requirement for at least two methods for leachate to flow to the low point of the landfill. The Board declined to make the change. The current design and performance standards for leachate removal are successfully being implemented at operating landfills.

Section 288.555. Leachate collection and storage.

The Board amended subsection (g) to apply the new requirements for the design of underground leachate pipes to areas permitted after the effective date of the regulations. The new pipes must have secondary containment or comply with alternative methods of release detection identified in the underground storage tank regulations.

Two commentators indicated that existing facilities should not have to have secondary containment for leachate piping. The Board has amended subsection (g) to indicate that the final-form rulemaking requires that underground pipes constructed after the effective date of the final-form rulemaking must have secondary containment or comply with § 245.445 (relating to methods for release detection for piping).

A commentator suggested that the 30-day leachate storage requirement allow more room for engineering mitigation. The Board declined to make the change because the 30-day storage requirement has proven to be necessary to ensure sufficient storage during adverse weather conditions or unforeseen leachate handling problems.

Section 288.556. Leachate analysis and sludge handling.

The Board amended the proposed changes to subsection (a)(2) to not allow a reduction in the quarterly leachate chemical analysis testing requirements. It is necessary to have current information on the leachate quality to determine such things as the impact of the leachate on the liner system, the effectiveness of the leachate treatment system, and the need for additional groundwater monitoring.

Subchapter F. Additional Requirements for Class III Residual Waste Landfills

Section 288.622. Areas where Class III residual waste landfills are prohibited.

Subsection (a)(4) was amended to indicate that the permittee, as opposed to the operator, must own the underlying coal. The section also removes the ambiguity of the term "minerals" and instead apply the restrictions to "coal," which is the mineral most likely to be mined.

The Board has amended the isolation distance language in subsection (a)(7). Subsection (a)(7)(i) addresses operations at existing facilities. Under the final-form regulation, these are subject to the old 300-foot setback. Disposal areas may not be closer than 500 feet except upon waiver by the owner of the dwelling.

Subsection (a)(7)(ii) addresses expansions of facilities where the facility was permitted before the effective date of this final-form rulemaking. Expansion of noncaptive landfills must be 900 feet from an occupied dwelling unless the owner provides a written waiver that meets the requirements of subparagraph (ii)(A), or the expansion will be on land owned by the applicant on the effective date of the regulations, subject to an enforceable option contract for purchase of the land on that date or purchased after the effective date of the regulations under an option contract entered into prior to the effective date (subparagraph (ii)(B)). If the contract/option provision applies, the expansion may not be operated closer than 300 feet and the disposal area may not be within 500 feet of an occupied dwelling unless the applicant obtains a waiver as described in subparagraph (ii)(A).

New noncaptive landfills will be subject to the 900-foot isolation distance, unless they obtain a written waiver from the owner. A closed landfill that submits an application to reopen and expand will also be subject to this paragraph.

Access roads are not subject to the 900-foot isolation distance. Under subsection (a)(7)(iv), access roads are subject to a 300-foot setback. While an increase in the setback to 900 feet from landfill activity is necessary to address issues such as noise, dust and odors, these issues can continue to be adequately addressed for access roads with a 300-foot setback.

A new subsection (a)(11)(iii) was added to ensure that areas permitted on or after the effective date of the regulations would not be an obstruction to air navigation under 14 CFR 77.23 (a)(5) (relating to standards for determining obstructions). This will offer greater protection against intrusion into an airport's flight paths.

One commentator suggested that the airport isolation distance be measured from the disposal area, not the permit area. The Board declined to change this requirement since other permit areas at the landfill, such as leachate storage and treatment ponds, may attract birds and present a hazard to aircraft.

One commentator suggested that the setback distances in § 288.622(a)(7) not apply to captive facilities. The final-form regulations clarify that the new 300-yard setback is not applicable to captive facilities.

Section 288.624. Attenuating soil.

One commentator suggested developing a more practical formulation of the standard of performance in requiring that attenuating soil "prevent migration of contaminants to the surface and the groundwater to the greatest degree that is technologically possible." The Board declined to amend this section, since current design standards for attenuating soil provide the appropriate level of protection for groundwater and surface water. The final-form regulations add flexibility by allowing an operator to choose an alternative design that provides the equivalent or greater level of protection to groundwater and surface water.

Appendix A, Table I.

The Board has modified this table to be more consistent with the municipal waste regulations and reflect more current terminology.

Chapter 289. Residual Waste Disposal Impoundments

Subchapter B. Application Requirements

Section 289.112. Facility plan.

The Board added language in paragraph (2) to require the permit application for a residual waste disposal impoundment to include a description of the method by which the soil necessary for construction and operation will be delivered. If soil is not located onsite, the traffic, access roads, and other impacts need to be evaluated when performing the environmental assessment process.

One commentator questioned whether the proposed language indicates that only soil may be used for construction. The requirement does not limit the use of alternative materials for construction. To the extent that alternative materials are demonstrated through appropriate equivalency reviews, alternative materials can be used.

Section 289.122. Geology and groundwater description.

The Board added language in subsection (a)(9) to allow the Department to require more frequent water level measurements after significant precipitation events. This information is necessary if the monthly measurements required by the regulations do not adequately represent the highest possible water levels which are needed to design the site.

One commentator indicated that the required groundwater contour map should be made from measurements obtained during the same month, not the highest measurement obtained from a particular well. The Board agrees but no changes to the Annex are necessary because the error was in the preamble explanation of how the contour map would be used. The contour map is only used to determine appropriate liner system isolation distances from the regional water table, and cannot be used to depict groundwater flow patterns.

Section 289.127. Mineral deposits information.

The Board amended the language in subsection (b) to remove the ambiguity of the term mineable mineral deposits and instead maintain the restrictions to mineable coals, which is the mineral most likely to be mined. An exception to the restrictions is provided for surface mining activities approved in the permit for purposes of facility construction.

One commentator suggested that the language should not apply to noncoal minerals which are adjacent to the facility. The Board amended the language to only apply to mineable coals, but retained the current requirement that also considers adjacent areas to the extent that coal mining in those areas would have an impact on the design and operation of the waste disposal impoundment. Another commentator felt that captive facilities should not be exempt from the new requirements in this section. The Board deleted the language exempting captive facilities from meeting the new change to this Section as it will allow surface mining, if necessary.

Section 289.128. Notification of proximity to airport.

The Board has amended this Section to require the applicant to notify the Bureau of Aviation of the Pennsylvania Department of Transportation, the Federal Aviation Administration and the airport if a proposed disposal impoundment or lateral expansion is within 6 miles of an airport runway. This was added to be consistent with the municipal waste regulations and will assist the Department in determining whether construction of the facility or modification thereof would be safe. If any of the respondents expresses safety concerns, the applicant will generally be required to submit a mitigation plan under § 287.127 (relating to environmental assessment), at a minimum.

Section 289.132. Operation plan.

On final-form rulemaking, minor clarifying language has been added to indicate that procedures for inspection and monitoring of incoming waste must be included in the operation plan of a permit application.

Section 289.133. Map and grid requirements.

The Board has added a requirement in new subsection (a)(13) that an application for a noncaptive residual waste disposal impoundment indicate on the topographic map a designated area for vehicles for use in the event of the detection of waste containing radioactive material. As with other requirements in this subchapter, this requirement applies to all permit applications, not just applications for new facilities. A transition schedule has been developed in § 287.135 (relating to transition period for radiation monitoring) for existing facilities to come into compliance with this regulation. The designated area must protect the environment, facility staff and public from radiation originating in the vehicle. The Department's *Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*, Document Number 250-3100-001, describes various factors to consider in determining an appropriate designated area.

Section 289.134. Plan for access roads.

One commentator suggested the term "adequately handle" was vague as a requirement for the ability of an access road to handle truck traffic. The Board agrees and deleted this provision from the application requirements.

Section 289.136. Nuisance minimization and control plan.

The Board amended subsection (a) to include the term "unsightliness" to address a commentator's suggestion

that the application requirements for nuisance minimization and control reflect the operating requirements.

Section 289.138. Radiation protection and action plan.

The Board has added a new section in the final-form rulemaking requiring that an application for a noncaptive residual waste disposal impoundment contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, record keeping and reporting. As with the other requirements of this subchapter, this requirement applies to all permit applications, not just applications for new facilities. A transition schedule has been developed in § 287.135 (relating to transition period for radiation monitoring) for existing facilities to come into compliance with this regulation. The action plan must be incorporated into the impoundment's approved waste analysis plan, under § 287.134 (relating to waste analysis plan). The permit modification will be a major modification. The action plan must be prepared in accordance with the Department's *Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*, Document Number 250-3100-001 or in a manner at least as protective of the environment, facility staff and public health and safety and which meets all statutory and regulatory requirements.

An approved action plan will specify the radiation exposure rate, in accordance with these regulations and the foregoing guidance document, at which the facility's radiation detection monitors will indicate the presence of radioactive material in waste in accordance with § 289.230 (relating to monitoring and response for noncaptive residual waste disposal impoundments). A waste load that does not trigger a radiation monitor will need no further action regarding radioactive materials screening. A waste load that does trigger a radiation monitor may only be accepted at the landfill if it is within the acceptable range approved in the action plan in accordance with these final regulations and the operator obtains additional written approval of the Department for that particular waste load. The Department's written approvals will be decided situation by situation or in advance in the facility's approved action plan. The Department will not authorize any waste containing radioactive material to be accepted at a residual waste landfill if it is above regulatory limits or if its disposal would endanger the health and safety of the public or the environment.

Section 289.172. Closure plan.

One commentator suggested revising the term "toward and after closure" and allowing the definition of "closure" to allow for temporary closure. To provide clarification, the Board replaced the phrase "toward and after closure" with "in preparation for closure and after closure." "Closure" is the point at which the entire facility permanently ceases to accept waste. It happens only once at a landfill. Under the final regulations, the application shall contain a plan describing the activities that are proposed to occur in preparation for closure and after closure and a narrative description of the measures that are proposed to be carried out.

Section 289.201. Basic limitations.

This Section has been revised in the final-form rulemaking to specify clearly the types of radioactive materials that might be found in the residual waste stream that may not be accepted at a residual waste landfill.

Subsection (f) lists six types of radioactive materials that are controlled under specific or general license or order. These are prohibited from disposal at a residual waste impoundment unless they are specifically exempted from disposal restrictions by an applicable Pennsylvania or Federal statute or regulation.

The first type, in paragraph (1), is NARM, which includes naturally occurring and accelerator produced radioactive material. Examples of NARM are radium, potassium-40, various isotopes produced in accelerators, such as cobalt-57, and members of the uranium-238 and thorium-232 decay chains when they don't meet the requirements for source material or special nuclear material.

Paragraph (2) prohibits disposal of by-product materials. These are produced by nuclear fission, or otherwise, in the nuclear energy cycle. Prominent examples are cesium-137 and strontium-90.

Paragraph (3) prohibits disposal of source material which, by definition, is uranium and/or thorium present at a combined concentration, by weight, of 0.05% or more. Examples are uranium ores and slags produced by smelting rare metal earth ores containing uranium and thorium.

Paragraph (4) prohibits disposal of special nuclear material, which includes those isotopes of uranium and plutonium that will split, or fission, when struck by neutrons. Examples of special nuclear material include uranium-233, uranium-235, and plutonium-239.

Paragraph (5) prohibits disposal of transuranic radioactive materials, which include all elements with an atomic number greater than 92 (92= uranium). Examples include neptunium, plutonium, americium, curium, californium, berkelium, einsteinium, fermium, mendelevium, and others. Transuranic elements do not occur naturally and are produced in high energy accelerators.

Paragraph (6) prohibits disposal of low-level radioactive waste. A definition of low-level radioactive waste is contained in section 130 of the Low Level Radioactive Waste Disposal Act.

Subsection (g) lists three categories of radioactive materials that are prohibited from being accepted at a residual waste landfill unless approved in writing by the Department and the disposal does not endanger the environment, facility staff or public health and safety.

The first radioactive material, in paragraph (1), is short-lived radioactive material from a patient having undergone a medical procedure. Certain short-lived radioactive materials are administered to medical patients for diagnosing or treating some illnesses. Once these materials are administered to the patient, they no longer fall under NRC or Pennsylvania licensing. Some of the material is retained in the patient and some is excreted in urine, feces, sweat, saliva or mucous and may get into solid waste through disposal of personal care items. The Department's intent is to authorize such material to be disposed in waste facilities upon case-by-case permission from the Area Health Physicists or Director of the Bureau of Radiation Protection, or advance authorization in the landfill's approved action plan, using the general concepts provided in the Department's *Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*, Document Number 250-3100-001.

Paragraph (2) addresses TENORM, which is naturally occurring radioactive material which has been altered by human activity in a manner that results in increased

radiation exposure to people. The alteration could be chemical or physical change in form, relocation of the norm, or removal of barriers that isolated the norm. The Department's intent is to authorize disposal of TENORM in landfills only in amounts and concentrations that will not result in concentrations of the NORM isotopes significantly above local background. Authorization will be given as case-by-case permission from the Area Health Physicists or Director of the Bureau of Radiation Protection, or advance authorization in the landfill's approved action plan.

Paragraph (3) addresses consumer products containing radioactive material. Some consumer products, such as smoke detectors, luminous dial clocks and watches, or some ceramics will wind up in the waste stream. The Department intends to allow disposal of small quantities of these under conditions specified in the facility's approved action plan or on a case-by-case basis with permission from the Area Health Physicist or Director of the Bureau of Radiation Protection.

Subsection (h) provides that the limitations set forth in this section will not apply to radioactive material as found in the undisturbed natural environment of this Commonwealth. The original soil and rock in many parts of the Commonwealth contain sufficient uranium, thorium, radium and potassium-40 to cause monitors to alarm even at quite high settings. This provision ensures that facilities may use soil and rock from undisturbed sites for cover, regardless of the content of radioactive material.

One commentator requested not to restrict the authority of the Department to allow mitigation activities to be conducted at the same time as waste acceptance only for "technical reasons" (subsection (e)). The Board declined to make changes in this subsection since allowing mitigation for technical reasons is the only items which can be resolved through proper design and operation. Mitigation measures are part of an approved application. Information provided in the application is incorporated into a permit issuance. Because mitigation is used to balance an environmental harm, it must be implemented immediately unless a technical design or operating reason is identified.

Section 289.224. Measurement and inspection of waste.

Subsection (a) has been amended to require noncaptive facilities receiving 30,000 or more cubic yards or more of solid waste in a calendar year to weigh incoming waste on a scale or an alternative method approved by the Department. This is consistent with the residual waste landfill requirements and will be used to monitor the maximum daily volume in the permit.

Subsection (c) has been amended to delete the requirement to monitor and inspect incoming waste for radioactive isotopes. This requirement was refined and moved to the various other sections throughout the final-form rulemaking.

Section 289.227. Air resources protection.

The board amended subsection (a) to reflect the applicable provisions of the Air Pollution Control Act (35 P. S. §§ 4001—4015), which required the operator to implement fugitive air contaminant control measures.

Section 289.228. Nuisance minimization and control.

The Board amended subsection (b) to require the operator to minimize and control "public nuisances" from odors. The proposed subsection had only referenced "nuisances". Subsection (b) is now consistent with subsection (c). Similarly, to harmonize subsection (b) with (c), the requirement was added that the operator implement the plan approved under § 289.136 (relating to nuisance minimization and control plan). Finally, the Board reversed the order of subsections (b) and (c) for clarity.

Section 289.230. Radiation monitoring and response for noncaptive residual waste disposal impoundments.

A new § 289.230 has been added to this final-form rulemaking to address monitoring for and responding to radioactive materials in residual waste in noncaptive disposal impoundments. Subsection (a) requires the facility operator to implement the action plan approved under § 289.138 (relating to radiation protection action plan). Subsection (b) requires the operator to monitor in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001 (or in an equally protective manner), the facility's approved radiation protection action plan and this section. Subsection (c) describes the required sensitivity of the monitors and establishes the maximum level of radiation at which they must be set to alarm. In addition to the monitors described in subsections (b) and (c), portable radiation monitors that can determine the radiation dose and the presence of contamination on a vehicle that has caused an alarm are required by subsection (d). When radiation is detected at an impoundment and the alarm exceedance is confirmed, the operator must perform a radiological survey of the vehicle. If a dose rate specified in subsection (e) is detected, the operator must notify the Department staff, and possible staff from Federal agencies will assist the facility and its consultants in identifying, localizing and quantifying the radioactive material in the load. This is a stepwise investigative process that will ultimately determine what corrective action is needed. The entire problem may be in one bag or the whole load may require disposal.

To ensure that the monitoring equipment continues to function properly, subsection (f) requires that it be calibrated at least once a year—and more often if so specified by the manufacturer.

Subsection (g) notes the Federal requirement that, once the presence of radioactivity is detected (such as, above Action Level I, as described in the guidance document), the vehicle is not permitted to leave the facility with the material on board without written Department approval and an authorized United States Department of Transportation exemption form issued by the Department. The exemption forms will usually be issued by telephone or fax communication for levels between Action Level I and the Action Level II limits specified in subsection (e).

Section 289.242. Cover

One commentator questioned the proposed performance standard that required the cap to limit the migration of precipitation into the disposal impoundment to the greatest degree technologically possible. The Board agrees and deleted the requirement. Instead, subsection (b) has been amended to require the cap to minimize the migration of precipitation into the landfill.

Section 289.263. Standards for wells and casing of wells.

The Board amended subsection (a) to allow for alternative well casing designs in stable formations, if approved by the Department. This provides some design flexibility based upon certain lithologic characteristics (stability and "tightness") of the formations under the site.

Section 289.264. Sampling and analysis.

The Board amended this section to change magnesium from an annual testing parameter to a quarterly parameter. This places magnesium among the more frequently measured metals which are effective early indicators of liner leakage or failure, and removes it from the generally more dissimilar metals included in the annual testing list.

Section 289.267. Abatement plan.

One commentator expressed a general concern that the groundwater abatement requirements do not fully parallel those provisions available in the Act 2. The Board declined to change the abatement language from the proposed revisions. The residual waste abatement standards apply to operating facilities, which by design and practice are engineered to prevent contamination of groundwater. Conditions at the disposal impoundment are not static: waste continues to be received and the area of disposal may expand. More stringent standards than those available under Act 2 are needed to address the operational dynamics of such a waste management facility. This contrasts with an Act 2 site, typically an abandoned facility, not designed to properly contain waste or manage groundwater, where the property boundaries have been established for years. At final closure, when the dynamics of the operating disposal impoundment are static and the property boundaries established, Act 2 remediation standards and the point of compliance are available.

Section 289.301. Daily operational records.

Subsection (b)(7)(iv) has been added on final to require information to be kept in the daily record describing radioactive materials detected in waste loads. This information will be helpful to the operator, the municipality and the Department. If the origin of the material is known, it will be stated in the daily record, along with the identity of the supplier or handler of the radioactive material and the driver. Identifying these parties will enable the operator and the Department to take steps to prevent inappropriate distribution of radioactive material in the future. The final disposition of the material is also required to be stated in the daily record. This will help the operator, the municipality and the Department know that the material will be properly disposed.

Subsection (b)(7)(v) has been added on final to require a disposal impoundment operator to identify vehicles that have arrived at the disposal impoundment over the maximum gross weight allowed on the roadways of this Commonwealth under section 4941 of the Vehicle Code. This requirement is designed to help reduce the number of overweight waste vehicles travelling on roadways of this Commonwealth. While the Department will not use this part of the daily operational record to institute a direct enforcement action against a waste hauler for exceeding a roadway weight limit or against a waste facility for accepting an overweight vehicle, the Department may use the information in enforcing the daily volume limits at the facility, in selecting locations for routine vehicle inspections and in taking other steps toward reducing the number of overweight waste vehicles.

Section 289.303. Annual operation report.

The Board amended subsection (b)(3) to delete the requirement to identify areas that are closed in the annual report because there is only one closure at the facility, that time at which the facility permanently ceases to accept waste. Instead, subsection (b)(3) has been amended to require the operator to describe the acreage used for disposal, areas revegetated, and a narrative describing the operator's progress in implementing its closure plan.

To provide a summary of the daily operational recordkeeping regarding radioactive waste, subsection (b)(10) was amended to require the annual report to include a record of detected radioactive materials at the disposal impoundment. This requirement was added to allow the Department to track the amount of radioactive material arriving at solid waste facilities and to use the data to better resolve the extent of the problem and for future problem solving.

Section 289.312. Closure.

The Board deleted the proposed requirement that requires acceptance of the operator's selection of the remediation standard because the decision may be impacted by other closure considerations.

Additional Requirements for Class I Residual Waste Disposal Impoundments

Section 289.412. Liner system and leachate control plan.

Several changes were made to the final regulations in this section.

The Board amended the existing liner testing properties to reflect current liner compatibility testing procedures. The following properties were added: density, carbon black content, carbon black dispersion, stress crack resistance and oxidative induction time. The following properties were deleted: the modulus of elasticity, impact resistance, operating temperature range, ozone resistance, water vapor transmission, coefficient of linear thermal expansion and low temperature/brittleness.

One commentator questioned why the proposed regulations required percent recycled material as a testing property and suggested that it be deleted unless this information is relevant. The Board declined to make the change. The percent recycled material can vary significantly during the manufacturing of liners and can change the performance of the liner.

Section 289.422. Areas where Class I residual waste disposal impoundments are prohibited.

Subsection (a)(4) was amended to indicate that the permittee, as opposed to the operator, must own the underlying coal. The Section also removes the ambiguity of the term "minerals" and instead apply the restrictions to "coal," which is the mineral most likely to be mined. One commentator suggested that captive facilities should not be exempt from the requirements of this subsection because it is an intrusion on the mineral owner's property rights. The Board deleted the exemption for captive facilities in this subsection.

The Board has amended the isolation distance language in subsection (a)(7). Subsection (a)(7)(i) addresses operations at existing facilities. Under the final regulation, these are subject to the old 300-foot setback. Disposal areas may not be closer than 500 feet except upon waiver by the owner of the dwelling.

Subsection (a)(7)(ii) addresses expansions of noncaptive facilities where the facility was permitted before the effective date of this final-form rulemaking. Expansions of noncaptive disposal impoundments must be 900 feet from an occupied dwelling unless the owner provides a written waiver that meets the requirements of subparagraph (ii)(A), or the expansion will be on land owned by the applicant on the effective date of the regulations, subject to an enforceable option contract for purchase of the land

on that date or purchased after the effective date of the regulations pursuant to an option contract entered into prior to the effective date (subparagraph (ii)(B)). If the contract/option provision applies, the expansion may not be operated closer than 300 feet and the disposal area may not be within 500 feet of an occupied dwelling unless the applicant obtains a waiver as described in subparagraph (ii)(A).

New noncaptive disposal impoundments will be subject to the 900-foot isolation distance, unless they obtain a written waiver from the owner. A closed landfill that submits an application to reopen and expand shall also be subject to this paragraph.

Access roads are not subject to the 900-foot isolation distance. Under subsection (a)(7)(iv), access roads are subject to a 300-foot setback. While an increase in the setback to 900 feet from disposal impoundment activity is necessary to address issues such as noise, dust and odors, these issues can continue to be adequately addressed for access roads with a 300-foot setback.

A new subsection (a)(11)(iii) was added to ensure that areas permitted on or after the effective date of the regulations would not be an obstruction to air navigation under 14 CFR 77.23 (a)(5) (relating to standards for determining obstructions). This will offer greater protection against intrusion into an airport's flight paths.

One commentator had concerns with the clarity with subsection (a) (12) because it begins with "if a school park or playground is nearby, the following apply:..." The Board declined to make changes to the language in this subsection, because the introductory language merely indicates that if a school, park or playground is near the proposed waste impoundment site, the applicant or operator must check and make sure that the 300-yard isolation distance is met.

Section 289.432. General limitations.

The Board amended subsection (c) to clarify that in confined layers at least 8 feet shall be maintained between the bottom of the liner system and the level where groundwater occurs as a result of upward leakage from natural or other preexisting causes. The term "upward" was added to clarify the intent.

One commentator suggested that a minimum isolation distance between the liner and water table is unnecessary, as long as a drainage system is present to prevent contact between the two. The Board declined to adopt this suggestion, since field experience has shown that the 8-foot isolation distance has proven to be an effective buffer to account for fluctuations in regional groundwater levels.

Section 289.434. Secondary liner.

The Board changed the word "lower" to "composite" when describing the liner component made of earthen material in subsection (d) to be more descriptive and to be consistent with Appendix A, Table 1. One commentator suggested that the regulations only include BAT or performance standards for liner system design that will protect the groundwater. The Board declined to make changes to this section. The current regulations contain design and performance standards and allow the applicant or operator to make adjustment through the equivalency review process.

Section 289.435. Leachate detection zone.

Subsection (e) was amended to require the flow calculation be based upon the flow in a lined collection area instead of the entire lined area. This can be used to more effectively address the leak on a localized basis.

Section 289.436. Primary liner.

The Board changed the word "lower" to "composite" when describing the liner component made of earthen material in subsection (d) to be more descriptive and to be consistent with Appendix A, Table 1.

Two commentators suggested that the regulations only include BAT or performance standards for liner system design that will protect the groundwater. The Board declined to make changes to this section. The current regulations contain design and performance standards and allow the applicant or operator to make adjustments through the equivalency review process.

Section 289.438. Leachate collection system within protective cover.

The reference to "noncarbonate" stones aggregates has been deleted in subsection (b)(4) on final-form rulemaking. The performance standards in subsection (a) address this issue by requiring that the collection system be able to withstand chemical attack from the leachate and function without clogging.

Section 289.455. Leachate collection and storage.

The Board amended subsection (g) to apply the new requirements for the design of underground leachate pipes to areas permitted after the effective date of the regulations. The new pipes must have secondary containment or comply with alternative methods of release detection identified in the underground storage tank regulations.

A commentator suggested that the 30-day leachate storage requirement allow more room for engineering mitigation. The Board declined to make the change because the 30-day storage requirement, in effect since 1992, has proven to be necessary to ensure sufficient storage during adverse weather conditions or unforeseen leachate handling problems.

Section 289.456. Leachate analysis and sludge handling.

The Board amended the proposed changes to subsection (a)(2) to not allow a reduction in the quarterly leachate chemical analyses testing requirements. It is necessary to have current information on the leachate quality to determine such things as the impact of the leachate on the liner system, the effectiveness of the leachate treatment system, and the need for additional groundwater monitoring.

Subchapter E. Additional Requirements for Class II Residual Waste Disposal Impoundments

Section 289.512. Liner system and leachate control plan.

Several changes were made to the final regulations in this Section.

The Board amended the existing liner testing properties to reflect current liner compatibility testing procedures. The following properties were added: density, carbon black content, carbon black dispersion, stress crack resistance and oxidative induction time. The following properties were deleted: the modulus of elasticity, impact resistance, operating temperature range, ozone resistance, water vapor transmission, coefficient of linear thermal expansion and low temperature/brittleness.

One commentator questioned why the proposed regulations require percent recycled material as a testing property and suggested that it be deleted unless this information is relevant. The Board declined to make the

change. The percent recycled material can vary significantly during the manufacturing of liners and can change the performance of the liner.

Section 289.522. Areas where Class II residual waste disposal impoundments are prohibited.

Subsection (a)(4) was amended to indicate that the permittee, as opposed to the operator, must own the underlying coal. The section also removes the ambiguity of the term "minerals" and instead apply the restrictions to "coal," which is the mineral most likely to be mined. One commentator suggested that captive facilities should not be exempt from the requirements of this subsection because it is an intrusion on the mineral owner's property rights. The Board deleted the exemption for captive facilities in this subsection.

The Board has amended the isolation distance language in subsection (a)(7). Subsection (a)(7)(i) addresses operations at existing facilities. Under the final-form regulations, these are subject to the old 300-foot setback. Disposal areas may not be closer than 500 feet except upon waiver by the owner of the dwelling.

Subsection (a)(7)(ii) addresses expansions of noncaptive facilities where the facility was permitted before the effective date of this final rulemaking. Expansions of noncaptive disposal impoundments must be 900 feet from an occupied dwelling unless the owner provides a written waiver that meets the requirements of subparagraph (ii)(A), or the expansion will be on land owned by the applicant on the effective date of the regulations, subject to an enforceable option contract for purchase of the land on that date or purchased after the effective date of the regulations pursuant to an option contract entered into prior to the effective date (subparagraph (ii)(B)). If the contract/option provision applies, the expansion may not be operated closer than 300 feet and the disposal area may not be within 500 feet of an occupied dwelling unless the applicant obtains a waiver as described in subparagraph (ii)(A).

New noncaptive disposal impoundments will be subject to the 900-foot isolation distance, unless they obtain a written waiver from the owner. A closed landfill that submits an application to reopen and expand shall also be subject to this paragraph.

Access roads are not subject to the 900-foot isolation distance. Under subsection (a)(7)(iv), access roads are subject to a 300-foot setback. While an increase in the setback to 900 feet from disposal impoundment activity is necessary to address issues such as noise, dust and odors, these issues can continue to be adequately addressed for access roads with a 300-foot setback.

A new subsection (a)(11)(iii) was added to ensure that areas permitted on or after the effective date of the regulations would not be an obstruction to air navigation under 14 CFR 77.23 (a)(5) (relating to standards for determining obstructions). This will offer greater protection against intrusion into an airport's flight paths.

Section 289.532. General limitations.

The Board amended subsection (c) to clarify that in confined layers at least eight (8) feet shall be maintained between the bottom of the liner system and the level where groundwater occurs as a result of upward leakage from natural or other preexisting causes. The term "upward" was added to clarify the intent.

One commentator suggested that a minimum isolation distance between the liner and water table is unnecessary, as long as a drainage system is present to prevent contact between the two. The Board declined to adopt this suggestion, since field experience has shown that the 8 foot isolation distance has proven to be an effective buffer to account for fluctuations in regional groundwater levels.

Section 289.534. Leachate detection zone.

Subsection (e) was amended to require that the flow calculation be based upon the flow in a lined collection area instead of the entire lined area. This can be used to more effectively address the leak on a localized basis.

Section 289.535. Liner

The Board changed the word "lower" to "composite" when describing the liner component made of earthen material in this subsection to be more descriptive and to be consistent with Appendix A, Table 1.

One commentator suggested that the regulations only include BAT or performance standards for liner system design that will protect the groundwater. The Board declined to make changes to this section. The current regulations contain design and performance standards and allow the applicant or operator to make adjustment through the equivalency review process.

Section 289.537. Leachate collection system within protective cover.

The Board amended subsection (b)(4) to delete the requirement that stones or aggregates in the leachate collection zone be noncarbonate. The performance standards in subsection (a)(2) address this issue by requiring that the collection system be able to withstand chemical attack from the leachate.

Section 289.555. Leachate collection and storage.

The Board amended subsection (g) to apply the new requirements for the design of underground leachate pipes to areas permitted after the effective date of the regulations. The new pipes must have secondary containment or comply with alternative methods of release detection identified in the underground storage tank regulations.

A commentator suggested that the 30-day leachate storage requirement allow more room for engineering mitigation. The Board declined to make the change because the 30-day storage requirement, in effect since 1992, has proven to be necessary to ensure sufficient storage during adverse weather conditions or unforeseen leachate handling problems.

Section 289.556. Leachate analysis and sludge handling.

The Board amended the proposed changes to subsection (a)(2) to not allow a reduction in the quarterly leachate chemical analyses testing requirements. It is necessary to have current information on the leachate quality to determine the things as the impact of the leachate on the liner system, the effectiveness of the leachate treatment system, and the need for additional groundwater monitoring.

Appendix A, Table I.

The Board amended the minimum liner design standards to be consistent with the municipal waste requirements and to insert new terminology.

Chapter 291. Land Application of Residual Waste

Subchapter C. General Operating Requirements for Land Application of Residual Waste

Section 291.201. General provisions.

On final rulemaking, the Board added language to address the land application of human waste that is not sewage sludge. Human waste generated at a location where other residual waste is generated, that is then land applied, is subject to the operating requirements for pathogen and vector attraction reduction in Chapter 271, Subchapter J (relating to beneficial use) in addition to the operating requirements of this chapter.

Section 291.203. Limitations on land application of residual waste.

One commentator expressed concerns that land application of what some consider "hazardous waste" to pastures may be harmful to beef and milk industries. The Board declined to make changes to this Section in response to this concern because the land application of residual waste to agricultural land would not be approved if the application would harm animal health, human health or the environment. In addition, the Board modified § 291.201(c) to clarify that hazardous waste may not be stored, processed or disposed at a land application facility.

Subchapter D. Additional Requirements for the Agricultural Utilization of Residual Waste

Section 291.315. Water quality monitoring.

The Board amended this section to clarify that soil and groundwater monitoring, when required by the Department for agricultural utilization of waste, must be conducted in accordance with requirements specified in §§ 288.525—288.258. These sections address the number and locations of monitoring wells, standards for casing of wells, sampling and analysis, reporting of results, assessment and abatement plans and recordkeeping requirements. The Board also added subsection (b) to substitute terms used in §§ 288.252—288.258 to reference disposal activities with terms used to reference land application activities.

Subchapter E. Additional Requirements for Land Reclamation

Section 291.416. Water quality monitoring.

The Board amended this section to clarify that soil and groundwater monitoring, when required by the Department land reclamation, must be conducted in accordance with requirements specified in §§ 288.525—288.258. These sections address the number and locations of monitoring wells, standards for casing of wells, sampling and analysis, reporting of results, assessment and abatement plans and recordkeeping requirements. The Board also added subsection (b) to substitute terms used in §§ 288.252—288.258 to reference disposal activities with terms used to reference land application activities.

Chapter 293. Transfer Facilities for Residual Waste

Subchapter B. Application Requirements for Transfer Facilities

Section 293.102. Operating plan.

The Board amended subsection (c) requiring that safety measures to prevent injuries be part of the facility operation plan. The Board added subsection (f), requiring the procedures for inspection and monitoring of incoming waste be included in the application, because these facilities need to ensure the wastes are consistent with the approved waste acceptance plan.

Section 293.103. Maps and related information.

The Board added a requirement in new subsection (a)(18) that an application for a noncaptive transfer facility indicate on the topographic map a designated area for vehicles for use in the event of the detection of waste containing radioactive material. This provision is the same as the provision added for residual waste landfills, in § 288.133, which is discussed in more detail above.

Section 293.104. Plan for access roads.

A commentator objected to the need for a road specification requirement in the plan and to the phrase "adequately handle." According to this commentator, any specification to an access road should be added to § 293.213. The phrase "adequately handle" is vague, according to this commentator, as it does not provide clear design standards. The Board agreed and deleted the proposed language from § 293.104, retaining the current language.

Section 293.110. Daily volume.

The Board added a new Section requiring a permit applicant to justify proposed maximum daily volume requested in a permit application. This information is needed to develop the design and operating plan and is used in the environmental assessment process.

Section 293.111. Radiation protection action plan.

The Board has added a new Section in the final rulemaking requiring that an application for a noncaptive transfer facility contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, recordkeeping and reporting. This provision is the same as the provision added for residual waste landfills in § 288.139 (relating to radiation protection action plan), which is discussed in more detail above.

Subchapter C. Operating Requirements for Transfer Facilities

Section 293.201. Basic limitations.

In subsection (d), the Board added language on final rulemaking to clarify that hazardous waste may not be stored, processed or disposed at a residual waste transfer facility. In addition, the Board added new subsections to specify clearly the types of radioactive materials that might be found in the waste stream that may not be accepted at a residual waste transfer facility. These provisions are the same as the provisions added for residual waste landfills in § 288.201 (relating to basic limitations), which are previously discussed in more detail.

Section 293.202. Areas where transfer facilities are prohibited.

A commentator objected to the proposed amendment to § 293.202(a)(5), which would require a facility to be enclosed, for any aspect of storage and processing, even if storage and processing do not occur within 100 feet of the stream. The Board amended this subsection by adding a provision which allows a facility to be sited within 100 feet of a perennial stream if no storage or processing will occur within that distance.

One commentator requested clarification on what constitutes "nearby" in § 293.202(a)(7), in the phrase, "if a school, park or playground is nearby." If a school, park or a playground is in the area, the applicant must make sure that the isolation distance of 300 yards is met.

The Board added a new requirement to paragraph (6) that allows a facility to be located within 50 feet of a property line as long as actual storage and processing will not occur within that distance.

Section 293.214. Measuring waste.

The Board deleted the current regulation requiring that solid waste delivered to a facility be accurately weighed or measured. The Board replaced this with subsection (a), requiring that only facilities receiving more than 30,000 cubic yards of waste per year weigh waste when it is received at the facility. A facility not required under subsection (a) to weigh the waste received is required to accurately measure the waste by volume or weight prior to unloading. The measurement of waste is necessary to address the daily volume operating requirements. Standards for the weigh scale and a licensing requirement for the operator of the scale are included.

Section 293.215. Operations and equipment.

The inspection and monitoring requirement that was proposed to be added in this section has been deleted. The radiation monitoring requirements have been refined and moved to various other sections throughout the final-form rulemaking.

Section 293.222. Daily volume.

The Board added a new section to the final-form regulations to indicate that a transfer facility may not receive more solid waste than the maximum daily volume that is approved in the permit.

Section 293.223. Radiation monitoring and response for noncaptive residual waste transfer facilities.

This new section has been added to the final-form rulemaking to address monitoring for and responding to radioactive materials in the waste stream. This section is the same as the section added for noncaptive residual waste landfills, § 288.222 (relating to radiation monitoring and response), which is discussed in more detail above.

Section 293.233. Soil and groundwater monitoring.

The Board amended this section to clarify that soil and groundwater monitoring, when required by the Department, must be conducted in accordance with requirements specified in §§ 288.252-288.258. These sections address the number and locations of monitoring wells, standards for casing of wells, sampling and analysis, reporting of results, assessment and abatement plans and recordkeeping requirements. The Board also added subsection (b) to substitute terms used in §§ 288.252—288.258 to reference disposal activities with terms used to reference storage and processing activities.

Section 293.251. Daily operational records.

Subsection (b)(11) has been added on final to require information to be kept in the daily record describing radioactive materials detected in waste loads at noncaptive facilities. This requirement is the same as the requirement added for noncaptive residual waste landfills, in § 288.281 (relating to daily operational records), which was previously discussed in more detail.

Section 293.252. Annual operation report.

The Board added subsection (b)(9) on final to require an annual reporting to the Department of radioactive materials detected at a transfer facility. This requirement was added to allow the Department to track the amount of radioactive material arriving at solid waste facilities. The date will be used to characterize the extent of the problem and for future problem solving.

Section 293.262. Cessation of operations.

The Board amended subsection (c) to clarify that when an operator makes a request to the Department to approve discontinuation of groundwater monitoring after cessation of transfer facility operations, the Department will consider, among other factors, whether the remediation standards in § 287.342(c) (relating to final closure certification) are met and maintained.

Chapter 295. Composting Facilities For Residual Waste

Chapter B. Application Requirements for Composting Facilities Operations

Section 295.111. Operating plan.

The Board added paragraph (11), which requires that a permit application include procedures for inspection and monitoring of incoming waste.

Section 295.112. Maps and related information.

The Board added a requirement in new subsection (a)(20) that an application for a noncaptive composting facility indicate on the topographic map a designated area for vehicles for use in the event of the detection of waste containing radioactive material. This provision is the same as the provision added for residual waste landfills, in § 288.133, which was previously discussed in more detail.

Section 295.115. Plan for access roads.

A commentator objected to the need for a road specification requirement in the plan and to the phrase "adequately handle". According to this commentator, any specification to an access road should be added to § 295.212. The phrase "adequately handle" is vague, according to this commentator, as it does not provide clear design standards. The Board agreed and deleted the proposed language from this section.

Section 295.119. Daily volume.

The Board added a new section requiring a permit applicant to justify proposed maximum daily volume requested in a permit application. This information is needed to develop the design and operating plan, and is used in the environmental assessment process.

Section 295.120. Radiation protection action plan.

The Board has added a new section in the final-form rulemaking requiring that an application for a noncaptive composting facility contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, recordkeeping and reporting. This provision is the same as the provision added for residual waste landfills in § 288.139, which was previously discussed in more detail.

Subchapter C. Operating Requirements for Composting Facilities

Section 295.201. Basic limitations.

The Board amended subsection (d)(3) to clarify that hazardous waste may not be stored, processed or disposed at a residual waste composting facility. In addition, the regulations were amended in subsection (e) to prohibit the management of sewage sludge at these facilities. Sewage sludge composting is managed under the municipal waste regulations.

In addition, the Board added new subsections to specify clearly the types of radioactive materials that might be found in the waste stream that may not be accepted at a residual waste composting facility. These provisions are the same as the provisions added for residual waste landfills in § 288.201 (relating to basic limitations), which were previously discussed in more detail.

Section 295.202. Areas where composting facilities are prohibited.

The Board amended this subsection by adding a provision that allows a facility to be sited within 100 feet of a perennial stream if no storage or processing will occur within that distance.

The Board also added provisions in subsection (a)(6) that provide greater flexibility to the application of the siting restriction for proximity to a property line. The amendments are the same options available when applying the site restriction for distance from a perennial stream. A facility may be closer than 50 feet from the property line if the storage and processing take place only in an enclosed facility, if the adjacent property owner provides a written waiver of consent or if actual storage and processing activities do not occur within that distance.

One commentator requested clarification on what constitutes "nearby" in subsection (a)(9), in the phrase, "if a school, park or playground is nearby." If a school, park or a playground is in the area, the applicant must make sure that the isolation distance of 300 yards is met.

Section 295.213. Access control.

The requirement to "construct" a fence or other suitable barrier around the areas of operation has been deleted on final-form rulemaking because no "construction" is necessary in instances where a natural barrier is sufficient to prevent unauthorized access.

Section 295.214. Measuring and inspection of waste.

Subsection (a) has been amended to reflect the repeal of the Weights and Measures Act of 1965 and the Public Weighmasters Act of 1961. Both acts were replaced with the Consolidated Weights and Measures Act of 1996, 3 Pa.C.S. §§ 4101—4194.

Due to redundancy, the Board deleted proposed language in subsection (c) that referred to consistency with the permit.

Section 295.221. Daily Volume.

The Board added a new section to the final-form regulations to indicate that a composting facility may not receive more solid waste than the maximum daily volume that is approved in the permit.

Section 295.222. Radiation monitoring and response for noncaptive residual waste composting facilities.

This new section has been added to the final-form rulemaking to address monitoring for and responding to radioactive materials in the waste stream. This section is the same as the section added for noncaptive residual waste landfills, § 288.222 (relating to radiation monitoring and response), which was previously discussed in more detail.

Section 295.254. Soil and groundwater monitoring.

The Board amended this section to clarify that soil and groundwater monitoring, when required by the Department, must be conducted in accordance with requirements specified in §§ 288.252—288.258. These sections address the number and locations of monitoring wells, standards for casing of wells, sampling and analysis, reporting of results, assessment and abatement plans and record keeping requirements. The Board also added subsection (b) to substitute terms used in §§ 288.252—288.258 to reference disposal activities with terms used to reference storage and processing activities.

Section 295.271. Daily operational records.

Subsection (b)(7) has been added on final to require information to be kept in the daily record describing radioactive materials detected in waste loads at noncaptive facilities. This requirement is the same as the requirement added for noncaptive residual waste landfills, in § 288.281 (relating to daily operational records), which was previously discussed in more detail.

Section 295.272. Annual operation report.

The Board added subsection (b)(10) on final to require an annual reporting to the Department of radioactive materials detected at a transfer facility. This requirement was added to allow the Department to track the amount of radioactive material arriving at solid waste facilities. The data will be used to characterize the extent of the problem and for future problem solving.

Section 295.282. Cessation of operations.

The Board amended subsection (d) to clarify that when an operator makes a request to the Department to approve discontinuation of groundwater monitoring after cessation of composting operations, the Department will consider, among other factors, whether the remediation standards in § 287.342(c) (relating to final closure certification) are met and maintained.

Chapter 297. Incinerators and Other Processing Facilities

Subchapter B. Application Requirements for Processing Facilities

Section 297.102. Operating plan.

The Board added paragraph (7), which requires that a permit application include procedures for inspection and monitoring of incoming waste at a processing facility.

Section 297.103. Maps and related information.

The Board added a requirement in new subsection (a)(20) that an application for a noncaptive processing facility indicate on the topographic map a designated area for vehicles for use in the event of the detection of waste containing radioactive material. This provision is the same as the provision added for residual waste landfills, in § 288.133, which was previously discussed in more detail.

Section 297.105. Plan for access roads.

A commentator objected to the need for a road specification requirement in the plan and to the phrase "adequately handle." According to this commentator, any specification to an access road should be added to § 297.213. The phrase "adequately handle" is vague, according to this commentator, as it does not provide clear design standards. The Board agreed and deleted the proposed language from this section.

Section 297.112. Daily volume.

The Board added a new section requiring a permit applicant to justify the proposed maximum daily volume requested in a permit application. This information is needed to develop the design and operating plan, and is used in the environmental assessment process.

Section 297.113. Radiation protection action plan.

The Board has added a new section in the final-form rulemaking requiring that an application for a noncaptive processing facility contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, recordkeeping and reporting. This provision is the same as the provision added for residual waste landfills in § 288.139, which was previously discussed in more detail.

Subchapter C. Operating Requirements For Processing Facilities

Section 297.201. Basic limitations.

The Board amended subsection (d)(3) to clarify that hazardous waste may not be stored, processed or disposed at a residual waste composting facility. In addition, the regulations were amended in subsection (e) to prohibit the management of sewage sludge at these facilities. Sewage sludge composting is managed under the municipal waste regulations.

This section has been revised in the final regulation to specify clearly the types of radioactive materials that might be found in the waste stream that may not be accepted at a residual waste processing facility. These provisions are the same as the provisions added for residual waste landfills in § 288.201 (relating to basic limitations), which were previously discussed in more detail.

Section 297.202. Areas where incinerators and other processing facilities are prohibited.

The Board amended subsection (a)(5) by adding a provision that allows a facility to be sited within 100 feet of a perennial stream if no storage or processing will occur within that distance.

Section 297.214. Measuring and inspection of waste.

Subsection (a) has been amended to reflect the repeal of the Weights and Measures Act of 1965 and the Public Weighmasters Act of 1961. Both acts were replaced with the Consolidated Weights and Measures Act of 1996, 3 Pa.C.S. §§ 4101—4194.

Subsection (c) has been amended to delete the requirement to monitor and inspect incoming waste for radioactive isotopes. This requirement was refined and moved to the various other sections throughout the final rulemaking.

Section 297.222. Daily Volume.

The Board added a new section to the final-form regulations to indicate that a composting facility may not receive more solid waste than the maximum daily volume that is approved in the permit.

Section 297.223. Radiation monitoring and response for noncaptive residual waste processing facilities.

This new section has been added to the final-form rulemaking to address monitoring for and responding to radioactive materials in the waste stream. This section is the same as the section added for noncaptive residual waste landfills, § 288.222 (relating to radiation monitoring and response), which was previously discussed in more detail.

Section 297.233. Soil and groundwater monitoring.

The Board amended this section to clarify that soil and groundwater monitoring, when required by the Department, must be conducted in accordance with requirements specified in §§ 288.252—288.258. These sections address the number and locations of monitoring wells, standards for casing of wells, sampling and analysis, reporting of results, assessment and abatement plans and record keeping requirements. The Board also added subsection (b) to substitute terms used in §§ 288.252—288.258 to reference disposal activities with terms used to reference storage and processing activities.

Section 297.261. Daily operational records.

Subsection (b)(11) has been added on final to require information to be kept in the daily record describing radioactive materials detected in waste loads at noncaptive facilities. This requirement is the same as the requirement added for noncaptive residual waste landfills, in § 288.281 (relating to daily operational records), which was previously discussed in more detail.

Subsection (b)(12) has been added on final to require a processing facility operator to identify vehicles that have arrived at the facility over the maximum gross weight allowed on roadways of this Commonwealth under section 4941 of the Vehicle Code. This requirement is designed to help reduce the number of overweight waste vehicles travelling on roadways of this Commonwealth. While the Department will not use this part of the daily operational record to institute a direct enforcement action against a waste hauler for exceeding a roadway weight limit or against a waste facility for accepting an overweight vehicle, the Department may use the information in enforcing the daily volume limits at the facility, in selecting locations for routine vehicle inspections and in taking other steps toward reducing the number of overweight waste vehicles.

Section 297.262. Annual operation report.

The Board added subsection (b)(9), requiring that a record of detected radioactive materials at the facility should be included in the annual report.

Section 297.272. Cessation of operation.

The Board amended subsection (c) to clarify that when an operator makes a request to the Department to approve discontinuation of groundwater monitoring after cessation of operations, the Department will consider, among other factors, whether the remediation standards are met and maintained.

Chapter 299. Storage and Transportation of Residual Waste

Subchapter A. Standards for Storage of Residual Waste

Section 299.121. Containers.

The Board amended subsection (b) to clarify that containers shall be designed to prevent leaks. Language requiring the operator to prevent leaks was deleted. The Board added subsection (e) to require a maximum height, width and depth for a group of containers. These requirements are necessary to provide enough aisle space for inspections and remedial actions that involve emergency vehicles and equipment.

Section 299.122. Storage tanks.

In subsection (a), the Board added the requirement that storage tanks must be clearly labeled as "residual waste." The Board added subsection (b), for aboveground storage tanks, and subsection (c), for underground storage tanks, to clarify the design and performance standards that are necessary for tanks used to store residual wastes. Alternative designs may be approved by the Department if it can be demonstrated that they perform at levels equivalent to the requirements in subsections (b) and (c).

Section 299.155. Storage of whole and processed waste tires.

The Board amended this Section to apply to whole and processed waste tires, rather than just waste tires, as these are the ultimate state once tires become a waste. The Board amended §§ 299.155 to 299.163 to delete the term "tire derived material" because tire derived material is included within the category of processed waste tires.

Two commentators indicated the management standards proposed in §§ 299.155—299.163 are not required for tires qualified as coproducts. Facilities that burn incoming waste tires for fuel use them as coproducts, not waste. They do not store "waste tires." The Board did not amend this section to address this issue because tires stored at the point of use for fuel that are qualified as coproducts do not need to comply with the storage requirements in §§ 299.156—299.163. The tires must, however, not be accumulated speculatively or be abandoned or disposed.

Another commentator was concerned that the proposed storage standards are costly and will discourage smaller tire recyclers, especially in rural areas. This commentator requested that the Board add a third, small operator category to encourage such recycling. A clarification on the phrase "small piles" was requested. The Board declined to modify this section because 500 waste tires is an appropriate exemption for small piles. The final-form regulations do not apply to persons storing less than 500 waste tires in open storage or less than 1,500 waste tires in enclosed storage unless such storage is harmful to public health and the environment. Further, the Department has the latitude to waive or modify storage requirements for small piles at the site of generation.

Section 299.162. Annual report for waste tire storage.

One commentator has objected to and asked for justification for the requirement to maintain certain annual reports for a minimum of 5 years, and not for three years. The Board agreed with this commentator and, although the annual report is still required to be submitted to the Department in the final-form regulations, it is not required to be maintained onsite.

The Board amended this section to require that the annual report include, along with the approximate number of tires, the weight of the whole or processed waste tires stored at the facility. In addition, the weights and numbers must be reported in passenger tire equivalents (PTE) with 1 (one) PTE equal to 20 pounds.

Section 299.220. Signs on vehicles.

The Board amended the final-form rulemaking to add a new section on signs on vehicles. The requirements currently exist in the municipal waste regulations. Since they also pertain to residual waste transporters, the requirements were repeated in these regulations to assist with compliance.

Section 299.221. Transporting foodstuffs and feedstuffs in vehicles used to transport waste.

The Board added a new section on final rulemaking to address the transportation of foodstuffs and feedstuffs in vehicles used to transport waste. The requirements currently exist in the municipal waste regulations. Since they also pertain to residual waste transporters, the requirements were repeated in these regulations to assist with compliance.

F. Benefits, Costs and Compliance

Executive Order 1996-1 requires a cost/benefit analysis of the proposed regulation.

Benefits

The final-form amendments to the residual waste regulations clarify existing regulations; eliminate requirements which are no longer necessary or are redundant; encourage performance-based requirements; encourage green technologies; and support a pollution prevention approach.

By modifying the definition of "waste" and related terms, more generators will be encouraged to use materials since no regulations will apply to materials used as an ingredient in manufacturing or used as a substitute for a commercial product.

Numerous changes are made to encourage flexibility and innovation by facility operators. The final amendments to the technical standards for residual waste landfills, for example daily cover requirements, focus on providing performance standards instead of design standards whenever appropriate. Where a design standard is stated and an equivalent method or technology is available if demonstrated by the applicant/operator to be adequate, the equivalency approval process has been simplified. Similarly, the proposed amendments limit the types of permit modifications that must go through a major modification process (including public notice and comment).

To promote green technologies, the final-form regulations allow for the demonstration of new technology at existing facilities to be performed through a permit modification process.

The citizens of this Commonwealth will benefit as a result of the more detailed environmental assessment process, which requires actual mitigation of existing and potential harms to the public and the environment from the facility. Citizens will also benefit from better protection from the improper disposal of radioactive materials.

Compliance Costs

Although this is a large, comprehensive rulemaking, it should not result in increased costs to the regulated community. Increased costs to industry will be reflected in the requirements of establishing systems for monitoring for and responding to radioactive materials unlawfully arriving at a waste facility. Industry will experience minor cost increases as a result of increases in permit application fees.

It is projected that there will be no increased costs or savings to local government for implementation or compliance monitoring activities associated with the regulations. The tire storage requirements have the potential to save local communities significant costs related to compliance monitoring and cleanup.

Savings are projected to be significant. The regulated community may realize savings up to $7 million due to changes in the definition of "waste," and the addition of industry-wide coproduct determination provisions. The regulated community will save the cost of performing coproduct determinations in many instances where material will be used as an ingredient in manufacturing or as a substitute to a commercial product. In addition, the definition of "coproduct" has been expanded to allow more materials to qualify and thus avoid regulation. If a coproduct determination is necessary, costs may be reduced in some instances by the ability to qualify for an

industry-wide coproduct determination. Operators of residual waste facilities may avoid cleanup costs by complying with the modified remediation standards. Costs of over $8 million for the cleanup of waste tire piles because of fire may be prevented with the proper storage of waste tires and installation of safety systems.

Compliance Assistance Plan

The Department will assist the regulated community by developing fact sheets where they would be helpful based on suggestions from industry groups. The Department's field staff will provide compliance assistance during routine facility permitting and inspections. In addition, the Department will continue to work with the Pennsylvania Chamber of Business and Industry and other industry groups at regularly scheduled intervals.

Paperwork Requirements

The final-form regulations should result in a net reduction in paperwork requirements due to revisions to the definition of "waste" and related terms. A coproduct determination will not have to be done by a generator in instances where, for example, the material is recycled by being used as an ingredient in an industrial process or as a substitute for a commercial product. In addition, the paperwork requirements may be significantly reduced as a result of changes to the regulations that provide for electronic submissions of data and applications.

G. Pollution Prevention

The Federal Pollution Prevention Act of 1990 established a national policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally-friendly materials, more efficient use of raw materials, or the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance.

The residual waste regulations have required generators to develop source reduction strategies since 1992. No revisions to these requirements have been included in this rulemaking. The existing requirements have caused the development of a highly successful source reduction program.

H. Sunset Review

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were intended.

I. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on July 29, 1998, the Department submitted a copy of the notice of proposed rulemaking, published at 28 Pa. B. 4037 to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing these final-form regulations, the Department has considered all comments from IRRC, the Committees and the public.

Under section 5.1(d) of the Regulatory Review Act (71 P. S. § 745.5a(d)), these final form regulations were deemed approved by the House Environmental Resources and Energy Committee on October 10, 2000, and were approved by the Senate Environmental Resources and Energy Committee on October 10, 2000. Under section 5.1(e) of the Regulatory Review Act, IRRC met on October 19, 2000 and approved the final-form regulations.

J. Findings of the Board

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P. S. §§ 1201 and 1202) and regulations promulgated thereunder at 1 Pa.Code §§ 7.1 and 7.2.

(2) A public comment period was provided as required by law, and all comments were considered.

(3) These regulations do not enlarge the purpose of the proposal published at 28 Pa.B. 407.

(4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this Preamble.

K. Order of the Board

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapters 250 and 287—299, are amended by amending §§ 250.9, 287.1, 287.2, 287.4, 287.51—287.55, 287.101, 287.102, 287.112, 287.115, 287.117, 287.122—287.125, 287.127, 287.131—287.134, 287.141, 287.151, 287.152, 287.154, 287.201—287.203, 287.211, 287.212, 287.221—287.223, 287.231, 287.321, 287.332, 287.341, 287.342, 287.371, 287.413, 287.421, 287.501, 287.502, 287.504, 287.611, 287.621, 287.632, 287.661, 287.662, 288.111—288.113, 288.121—288.124, 288.127, 288.131—288.134, 288.136, 288.141, 288.152, 288.182, 288.191, 288.201, 288.202, 288.211—288.218, 288.232—288.234, 288.245, 288.252—288.254, 288.256, 288.257, 287.261, 288.262, 288.271, 288.272, 288.281, 288.283, 288.292, 288.301, 288.302, 288.412, 288.422, 288.423, 288.432—288.436, 288.438, 288.454, 288.455, 288.512, 288.522, 288.523, 288.532—288.535, 288.537, 288.554, 288.555, 288.621—288.624, 289.111—289.113, 289.121, 289.122, 289.124, 289.127, 289.131—289.134, 289.136, 289.141, 289.152, 289.172, 289.201, 289.212, 289.221—289.225, 289.227, 289.228, 289.242, 289.255, 289.262—289.264, 289.266, 289.267, 289.281, 289.282, 289.291, 289.292, 289.301, 289.303, 289.312, 289.412, 289.422, 289.423, 289.432—289.436, 289.438, 289.454—289.456, 289.512, 289.522, 289.523, 289.532, 289.534, 289.535, 289.537, 289.554, 289.555, Appendix A, 291.101—291.103, 291.201—291.203, 291.205, 291.207 291.210, 291.221, 291.222, 291.301, 291.311, 291.312, 291.315, 291.316, 291.412, 291.414, 291.416, 291.417, 293.1, 293.102, 292.103, 293.106, 293.109, 293.201, 293.202, 293.211—293.219, 293.221, 293.231—293.234, 293.241, 293.251, 293.252, 293.262, 295.111, 295.112, 295.201, 295.202, 295.211—295.215, 295.217, 295.218, 295.220, 295.231, 295.253—295.255, 295.261, 295.271, 295.272, 295.282, 297.102, 297.103, 297.201, 297.202, 297.211—297.219, 297.221, 297.232—297.234, 297.253, 297.261, 297.262, 297.272, 299.101, 299.115, 299.121, 299.122, 299.131, 299.144, 299.201 and 299.219; by adding §§ 287.8—287.10, 287.135, 288.128, 288.138, 288.139, 288.221, 288.222, 289.127, 289.128, 289.137, 289.138, 289.229, 289.230, 291.209, 291.314, 291.501—291.503, 291.511—291.517,

291.521—291.528, 293.110, 293.111, 293.222, 293.223, 295.119, 295.120, 295.121, 295.221, 295.222, 297.112, 297.113, 297.222, 297.223, 299.155—299.163, 299.220 and 299.221; and by deleting §§ 288.231, 289.241, 289.302, 291.209, 291.314, 291.501—291.503, 291.511—291.517 and 291.521—291.528 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson shall submit this order and Annex A to IRRC and the Senate and House Environmental Resources and Energy Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.

(e) This order shall take effect immediately upon publication in the Pennsylvania Bulletin.

JAMES M. SEIF,
Chairperson

(*Editor's Note:* For the text of the order of the Independent Regulatory Review Commission, relating to this document, see 30 Pa.B. 5807 (November 4, 2000).)

Fiscal Note: Fiscal Note 7-336 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart D. ENVIRONMENTAL HEALTH AND SAFETY

ARTICLE VI. GENERAL HEALTH AND SAFETY

CHAPTER 250. ADMINISTRATION OF LAND RECYCLING PROGRAM

Subchapter A. GENERAL PROVISIONS

§ 250.9. Interaction with other environmental statutes.

(a) A release of a regulated substance at a solid waste facility which did not receive waste after September 7, 1980, shall be remediated in accordance with this chapter and the act.

(b) Nothing in this chapter affects the permitting, operation, design, performance or closure requirements under the environmental protection acts or regulations thereunder. The remediation standards as defined in Chapters 271 and 287 (relating to municipal waste management—general provisions; and residual waste management—general provisions), do not substitute for design and performance standards required under the solid waste management regulations. See Articles VIII and IX (relating to municipal waste; and residual waste management). In the case of hazardous waste facilities, remediations shall comply with requirements applicable under the Resource Conservation and Recovery Act (42 U.S.C.A. §§ 6091—6986).

(c) An unpermitted release or spill of a regulated substance at a permitted solid waste facility that is outside a disposal or processing unit, including surface impoundments, waste storage areas, associated piping and underlying containment systems, shall be remediated in accordance with this chapter and the act.

ARTICLE IX. RESIDUAL WASTE

CHAPTER 287. RESIDUAL WASTE MANAGEMENT—GENERAL PROVISIONS

Subchapter A. GENERAL

§ 287.1. Definitions.

The following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

ASTM—The American Society for Testing and Materials.

Abatement—The restoration, reclamation, recovery, and the like, of a natural resource adversely affected by the activity of a person, permittee or municipality.

Abatement standards—Background, Statewide health and risk-based standards as those terms are defined under this article.

Access road—A roadway or course providing access to a residual waste processing or disposal facility, or areas within the facility, from a road that is under Federal, State or local control.

Accumulated speculatively—A material that is accumulated before being recycled.

(i) The term does not include material if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that—during the calendar year (commencing on January 1)—the amount of material that is recycled or transferred to a different site for recycling, equals at least 75% by weight or volume of the amount of that material accumulated at the beginning of the period.

(A) In calculating the percentage of turnover, the 75% requirement is to be applied to each material of the same type—for example, slags from a single smelting process—that is recycled in the same way (that is, from which the same material is recovered or that is used in the same way).

(B) Materials that are already defined as wastes also are not to be included in making the calculation.

(ii) Materials are no longer in this category once they are removed from accumulation for recycling.

(iii) The term does not include a waste pile if the waste is being mined and if one of the following is met:

(A) An approved waste closure plan allows mining of the waste.

(B) If waste was disposed prior to September 7, 1980, an approved mining permit allows mining of the waste.

Act—The Solid Waste Management Act (35 P. S. §§ 6018.101—6018.1003).

Adjacent area—Contiguous and noncontiguous land located outside the permit area, where air, surface water or groundwater, fish, wildlife, vegetation or other resources protected by this article may be adversely affected by residual waste management.

Adversely affect—In the context of water supplies, the term has the following meaning: to cause or contribute to a measurable increase in the concentration of one or more contaminants in a water supply above background levels, or to cause or contribute to a decrease in the quantity of the water supply.

Agricultural utilization—The land application of solid waste for its plant nutrient value or as a soil conditioner as part of an agricultural operation.

Agricultural waste—Poultry and livestock manure, or residual materials in liquid or solid form generated in the production and marketing of poultry, livestock, fur bearing animals and their products, if the agricultural waste is not hazardous. The term includes the residual materials generated in producing, harvesting and marketing of agronomic, horticultural, aquacultural and silvicultural crops or commodities grown on what are usually recognized and accepted as farms, forests or other agricultural lands. The term also includes materials in liquid or solid form generated in the production and marketing of fish or fish hatcheries.

Airport—A public airport, as defined in 67 Pa. Code § 471.2 (relating to definitions). The term does not include heliports.

Aquaculture—The practice of raising plants or animals, such as fish or shellfish, in manmade or natural bodies of water.

Aquifer—A geologic formation, group of formations or part of a formation capable of yielding sufficient groundwater for monitoring purposes.

Association—A corporation, partnership, limited liability company, business trust or two or more persons associated in a common enterprise or undertaking.

Attenuating soil—Soil material existing in place or placed beneath solid waste that will provide natural attenuation of leachate emanating from the waste.

Attenuation—A decrease in the maximum concentration or total quantity of an applied chemical or biological constituent of solid waste in a fixed time or distance that results from physical, chemical or biological reactions or transformations.

Autofluff—Residue from the shredding of automobiles after all fluids have been removed.

Background standard—A numerical value as determined under section 302 of the Land Recycling and Environmental Remediation Standards Act (35 P. S. § 6026.302) and § 250.202 (relating to establishing background concentrations).

Beneficial use—Use or reuse of residual waste or residual material derived from residual waste for commercial, industrial or governmental purposes, if 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, if the use does not harm or threaten public health, safety, welfare or the environment.

By-product—A material that is not one of the primary products of a production process or a coproduct and is not solely or separately produced by the production process.

Byproduct materials—The Federal definition for "byproduct material" in 10 CFR 20.1003 (relating to definitions) is incorporated by reference.

Captive residual waste facility—A residual waste processing or disposal facility that is located upon lands owned by the person or municipality that generated the residual waste and which is operated to provide for the processing or disposal solely of the generator's residual waste.

Chemical Abstract Service Registry Number—A number assigned to a corresponding type of chemical or chemical category as referenced in regulations promulgated under the Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C.A. §§ 11001—11050). The list of Chemical Abstract Service Registry numbers is codified at 40 CFR 372.65 (relating to chemicals and chemical categories to which this part applies).

Clean fill—Uncontaminated, nonwater-soluble, inert solid material used to level an area or bring the area to grade. The term does not include materials placed in or on the waters of this Commonwealth.

Clean Streams Law—35 P. S. §§ 691.1—691.1001.

Closure—The act of permanently ceasing to accept waste at a residual waste processing, storage or disposal facility, and limiting access to those activities necessary for postclosure care, maintenance and monitoring.

Coal ash—Fly ash, bottom ash or boiler slag resulting from the combustion of coal, that is or has been beneficially used, reused or reclaimed for a commercial, industrial or governmental purpose. The term includes such materials that are stored, processed, transported or sold for beneficial use, reuse or reclamation. For purposes of this article, the term also includes fly ash, bottom ash or boiler slag resulting from the combustion of coal, that is not and has not been beneficially used, reused or reclaimed for a commercial, industrial or governmental purpose.

Collateral bond—A penal bond agreement in a sum certain, payable to the Department, executed by the operator, and which is supported by the deposit with the Department of cash, negotiable bonds of the United States, the Commonwealth, the Turnpike Commission, the General State Authority, the State Public School Building Authority or a Commonwealth municipality, Commonwealth bank automatically renewable and assignable certificates of deposit, or irrevocable and standby Commonwealth bank letters of credit.

Commercial establishment—An establishment engaged in nonmanufacturing or nonprocessing business. The term includes stores, markets, office buildings, restaurants, shopping centers and theaters.

Composting—The process by which organic solid waste is biologically decomposed under controlled anaerobic or aerobic conditions to yield a humus-like product.

Composting facility—A facility for processing solid waste by composting.

Composting pad—An area within a composting facility where compost or solid waste is processed, stored, loaded or unloaded.

Confined aquifer—An aquifer in which the uppermost surface is at greater than atmospheric pressure.

Construction material—The engineered use of residual waste as a substitute for a raw material or a commercial product in a construction activity, if the waste has the same engineering characteristics as the raw material or commercial product for which it is substituting. The term includes the use of residual waste as a road bed material, for pipe bedding, and in similar operations. The term does not include valley fills, the use of residual waste to fill open pits from coal or other fills, or the use of residual waste solely to level an area or bring the area to grade where a construction activity is not completed promptly after the placement of the solid waste.

Container—A portable device in which waste is stored or transported.

Coproduct—

(i) A material generated by a manufacturing or production process, or a spent material, of a physical character and chemical composition that is consistently equivalent

to the physical character and chemical composition of an intentionally manufactured product or produced raw material, if the use of the material presents no greater threat of harm to human health and the environment than the use of the product or raw material. A material may not be compared, for physical character and chemical composition, to a material that is no longer determined to be waste in accordance with § 287.7 (relating to determination that a material is no longer a waste). A coproduct determination, which shall be made in accordance with § 287.8 (relating to coproduct determinations), only applies to materials that will be applied to the land or used to produce products that are applied to the land, including the placement of roadway aggregate, pipe bedding or construction materials, or that will be used for energy recovery as is with a minimum BTU value of 5,000/lb. as generated or as fired. If the proposed coproduct material is oil, a determination may only be made for oil refined from crude oil or synthetically produced oil, not contaminated by physical or chemical impurities, that will be used for energy recovery if the material has a minimum heat content (BTU value) comparable to the petroleum fuel it will replace.

(ii) The term only applies to one of the following:

(A) If the material is to be transferred in good faith as a commodity in trade, for use in lieu of an intentionally manufactured product or produced raw material, without processing that would not be required of the product or raw material, and the material is not accumulated speculatively. Sizing, shaping or sorting of the material will not be considered processing for the purpose of this definition.

(B) If the material is to be used by the manufacturer or producer of the material in lieu of an intentionally manufactured product or produced raw material, without processing that would not be required of the product or raw material, and the material is not accumulated speculatively. Sizing, shaping or sorting of the material will not be considered processing for the purpose of this definition.

(iii) If no product or produced raw material exists for purposes of chemical and physical comparison, the Department will review, upon request, information provided and determine whether the material is a coproduct because it is an effective substitute for an intentionally manufactured product or produced raw material, based on the criteria in subparagraph (ii) and whether the material presents a threat of harm to human health and the environment in accordance with § 287.8.

(iv) A waste may become a coproduct after processing if it would otherwise qualify as a coproduct.

(v) Persons producing, selling, transferring, possessing or using a material who claim that the material is a coproduct and not a waste shall demonstrate that there is a known market or disposition for the material, and that they meet the terms of this definition and § 287.8. In doing so, they shall provide appropriate documentation, such as contracts showing that a second person uses the material as an ingredient in a production process, to demonstrate that the material is not a waste.

Crude material—A naturally occurring material in its unrefined or natural state.

Disposal—The deposition, injection, dumping, spilling, leaking, incineration or placing of solid waste into or on the land or water 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 this Commonwealth.

Disposal area—The part of the site where disposal has occurred, is occurring or will occur.

Dredged material—Material dredged or excavated from waters for the direct or indirect purpose of establishing or increasing water depth, or increasing the surface or cross-sectional area of a waterway and which includes sediment, soil, mud, shells, gravel or other aggregate. The material does not include waste removed or dredged from an impoundment that has received solid waste.

Drill cuttings—Rock cuttings and related mineral residues created during the drilling of wells under the Oil and Gas Act (58 P. S. § 601.101—601.605) if the materials are disposed of at the well site and under section 206 of the Oil and Gas Act (58 P. S. § 601.206).

Environmental protection acts—The Clean Streams Law, the Air Pollution Control Act (35 P. S. §§ 4001—4015), the Surface Mining Conservation and Reclamation Act (52 P. S. §§ 1396.1—1396.31), the Noncoal Surface Mining Conservation and Reclamation Act (52 P. S. §§ 3301—3326), the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27) and other State or Federal statutes relating to environmental protection or the protection of the public health, including statutes adopted or amended after July 4, 1992.

Exceptional value wetlands—Wetlands that exhibit one or more of the following characteristics:

(i) Wetlands which serve as habitat for fauna or flora listed as "threatened" or "endangered" under the Endangered Species Act of 1973 (7 U.S.C.A. § 136; 16 U.S.C.A. §§ 4601-9, 460k-1, 668dd, 715i, 715a, 1362, 1371, 1372, 1402, and 1531—1543), the Wild Resource Conservation Act (32 P. S. §§ 5301—5314), 30 Pa.C.S. (relating to the Fish and Boat Code) or 34 Pa.C.S. (relating to the Game and Wildlife Code).

(ii) Wetlands that are hydrologically connected to or located within 1/2-mile of wetlands identified under subparagraph (i) and that maintain the habitat of the threatened or endangered species within the wetland identified under subparagraph (i).

(iii) Wetlands that are located in or along the floodplain of the reach of a wild trout stream or waters listed as exceptional value under Chapter 93 (relating to water quality standards) and the floodplain of streams tributary thereto, or wetlands within the corridor of a watercourse or body of water that has been designated as a National wild or scenic river in accordance with the Wild and Scenic Rivers Act of 1968 (16 U.S.C.A. §§ 1271—1287) or designated as wild or scenic under the Pennsylvania Scenic Rivers Act (32 P. S. §§ 820.21—820.29).

(iv) Wetlands located along an existing public or private drinking water supply, including both surface water and groundwater sources, that maintain the quality or quantity of the drinking water supply.

(v) Wetlands located in areas designated by the Department as "natural" or "wild" areas within State forest or park lands, wetlands located in areas designated as Federal wilderness areas under the Wilderness Act (16 U.S.C.A. §§ 1131—1136) or wetlands located in areas designated as National natural landmarks by the Secretary of the Interior under the Historic Sites Act of 1935 (16 U.S.C.A. §§ 461—467).

FAA—The Federal Aviation Administration of the United States Department of Transportation.

Facility—Land, structures and other appurtenances or improvements where municipal or residual waste disposal

or processing is permitted or takes place or where hazardous waste is treated, stored or disposed. The term includes land thereby used or affected during the lifetime of operations, including areas where solid waste management actually occurs, support facilities, offices, equipment sheds, air and water pollution control and treatment systems, access roads, associated onsite or contiguous collection, transportation and storage facilities, closure and postclosure care and maintenance activities, contiguous borrow areas and other activities in which the natural land surface has been disturbed or used as a result of or incidental to operation of the facility.

Failure—Actual or potential leakage, breach or overtopping of an impoundment.

Final closure—The date after which no further treatment, maintenance or other action is or will be necessary at a residual waste processing or disposal facility to ensure compliance with the act and this article.

Food processing sludge—A solid, semisolid or liquid waste generated by a food processing water treatment or wastewater treatment facility, containing food processing waste and additional materials. The additional materials may include detergents, dispersal agents, flocculants, disinfectants and biological agents.

Food processing waste—Residual materials in liquid and solid form generated in the slaughtering of poultry and livestock, or in processing and converting fish, seafood, milk, meat and eggs to food products. The term includes residual materials generated in the processing, converting or manufacturing of fruits, vegetables, crops and other commodities into marketable food items. The term also includes vegetative residuals from food processing activities that are usually recognizable as part of a plant or vegetable, including cabbage leaves, bean snips, onion skins, apple pomace and grape pomace.

Food processing wastes used for agricultural purposes—The use of food processing wastes in normal farming operations.

Free liquids—Liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

Friable asbestos-containing waste—Waste material containing more than 1% asbestos by weight that hand pressure can crumble, pulverize or reduce to powder when dry. The term also includes nonfriable asbestos-containing waste which is rendered friable during management.

Garbage—Solid waste.

General permit—A regional or Statewide permit issued by the Department for a specified category of beneficial use or processing of solid waste, the terms and conditions of which allow an original applicant, a registrant and person or municipality that obtains a determination of applicability, to operate under the permit if the terms and conditions of the permit and certain requirements of this article are met.

Generator—A person or municipality that produces or creates a residual waste.

Groundwater—Water beneath the surface of the ground that exists in a zone of saturation.

Groundwater degradation—A measurable increase in the concentration of one or more contaminants in groundwater above background concentrations for those contaminants.

Hazardous waste—

(i) The term includes garbage, refuse or sludge from an industrial or other wastewater treatment plant, sludge from a water supply treatment plant or air pollution control facility, and other discarded material, including solid, liquid, semisolid or contained gaseous material resulting from municipal, commercial, industrial, institutional, mining or agricultural operations, and from community activities, or a combination of these materials, which because of its quantity, concentration or physical, chemical or infectious characteristics may do one of the following:

(A) Cause or significantly contribute to an increase in mortality or increase in morbidity in either an individual or the total population.

(B) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

(ii) The term does not include coal refuse as defined in the Coal Refuse Disposal Control Act (52 P. S. §§ 30.51—30.101); treatment sludges from coal mine drainage treatment plants, disposal of which is being carried on under and in compliance with a valid permit issued under the Clean Streams Law; solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act (33 U.S.C.A. §§ 1342) or source, special nuclear or byproduct material as defined by the Atomic Energy Act of 1954 (42 U.S.C.A. §§ 2011—2394). The term is further defined in Chapter 261a (relating to identification and listing of hazardous waste) and 40 CFR Part 261 (relating to identification and listing of hazardous waste) to the extent incorporated in § 261a.1 (relating to incorporation by reference, purpose and scope).

IRIS—Integrated Risk Information System.

Impoundment—A facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials although it may be lined with synthetic materials, and which is designed to hold an accumulation of liquid wastes or wastes containing free liquids. The term includes holding, storage, settling and aeration pits, ponds and lagoons. The term does not include injection wells.

Incinerator—An enclosed device using controlled combustion for the primary purpose of thermally breaking down solid waste, which is equipped with a flue as defined in § 121.1 (relating to definitions).

Incorporating—Injecting solid waste beneath the surface of the soil or mixing solid waste with the surface soil.

Industrial establishment—An establishment engaged in manufacturing or processing, including factories, foundries, mills, processing plants, refineries, mines and slaughterhouses.

Intermittent stream—A body of water flowing in a channel or bed composed primarily of substrates associated with flowing water, which during periods of the year, is below the local water table and obtains its flow from both surface runoff and groundwater discharges.

Land application—The management of solid waste through agricultural utilization or land reclamation. The term does not include the disposal of solid waste in a landfill or disposal impoundment.

Landowner—The person or municipality in whom legal title to the surface of the land is vested.

Land reclamation—The land application of solid waste for its plant nutrient value or as a soil conditioner to restore or enhance the soil to establish vegetative growth.

Leachate—A liquid, including suspended or dissolved components in the liquid, that has percolated through or drained from solid waste.

Leaf waste—Leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings.

Lift—A compacted layer of solid waste upon which daily, intermediate or final cover may be applied.

Liquid waste—Residual waste that contains free liquids as determined by Method 9095 (paint filter liquids test), as described in the EPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA Publication No. SW-846.)

Local captive residual waste facility—A captive facility which is located at one of the following locations:

(i) On the same tract of land where the waste was generated.

(ii) On a tract of land that is contiguous to the tract where the waste was generated.

(iii) On a tract of land that is connected to the tract where the waste was generated by a right-of-way controlled by the generator to which the public does not have access.

(iv) On a tract of land that is separated from the tract where the waste was generated by only a public or private right-of-way and access between the two tracts is by crossing rather than traveling along the right-of-way.

MCL—Maximum contaminant level.

Management—The entire process or a part thereof, of storage, collection, transportation, processing, treatment and disposal of solid wastes by a person engaged in the process.

Mine—A deep or surface mine, whether active, inactive or abandoned.

Mining—The process of the extraction of minerals from the earth, from waste or stockpiles, or from pits or banks.

Monofill—A facility that disposes solely of waste which is generated by the same industrial or manufacturing process and which has the same, or substantially similar, physical and chemical characteristics and composition.

Municipality—A city, borough, incorporated town, township, county or an authority created by one or more of the foregiong.

Municipal waste—Garbage, refuse, industrial lunchroom or office waste and other material, including solid, liquid, semisolid or contained gaseous material resulting from operation of residential, municipal, commercial or institutional establishments and from community activities, and sludge not meeting the definition of "residual" or "hazardous waste" under this section from a municipal, commercial or institutional water supply treatment plant, wastewater treatment plant or air pollution control facility.

NARM—Naturally occurring or accelerator-produced radioactive material—The term does not include byproduct, source or special nuclear material.

NORM—Naturally occurring radioactive material—A nuclide which is radioactive in its natural physical state—that is, not manmade—but does not include source or special nuclear material.

NPDES—National Pollutant Discharge Elimination System.

Noncaptive facility—A residual waste processing or disposal facility that is not a captive residual waste facility.

Normal farming operations—The customary and generally accepted activities, practices and procedures that farms adopt, use or engage in year after year in the production and preparation for market of poultry, livestock and their products; and in the production, harvesting and preparation for market of agricultural, agronomic, horticultural, silvicultural and aquacultural crops and commodities, if the operations are conducted in compliance with applicable laws, and if the use or disposal of these materials will not pollute the air, water or other natural resources of this Commonwealth. The term includes the storage and utilization of agricultural and food processing wastes, screenings and sludges for animal feed, and the agricultural utilization of septic tank cleanings and sewage sludges which are generated offsite. The term includes the management, collection, storage, transportation, use or disposal of manure, other agricultural waste and food processing waste, screenings and sludges on land where the materials will improve the condition of the soil, the growth of crops or in the restoration of the land for the same purposes.

Occupied dwelling—A permanent building or fixed mobile home that is being used on a regular or temporary basis for human habitation.

Operate—To construct a residual waste management facility in anticipation of receiving solid waste for the purpose of processing or disposal; to receive, process or dispose of solid waste; to carry on an activity at the facility that is related to the receipt, processing or disposal of waste or otherwise uses or affects land at the facility; to conduct closure and postclosure activities at a facility.

Operator—A person or municipality engaged in solid waste processing or disposal by operating a facility. If more than one person is engaged in a single operation, all persons shall be deemed jointly and severally responsible for compliance with this article.

Owner—The person or municipality who is the owner of record of a facility or part of a facility.

PCB—A chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or a substance which contains that substance.

PCB-containing waste—Solid waste containing PCBs in the following concentrations:

(i) More than 4 parts per million, but less than 50 parts per million.

(ii) 50 parts per million or more, if the following are met:

(A) Regulations promulgated under the Toxic Substances Control Act (15 U.S.C.A. §§ 2601—2629) provide that the waste may be disposed of as municipal solid waste.

(B) The waste is not a hazardous waste under the act.

(C) The Resource Conservation and Recovery Act (42 U.S.C.A. §§ 6901—6991) does not impose specific standards or requirements for the disposal of the waste.

Perched aquifer—An aquifer that is separated from an underlying aquifer by an unsaturated zone.

Perched water table—The water table of a perched aquifer.

Perennial stream—A body of water flowing in a channel or bed composed of substrates associated with flowing waters and is capable, in the absence of pollution or other manmade disturbances, of supporting a benthic macroinvertebrate community which is composed of two or more recognizable taxonomic groups of organisms which are large enough to be seen by the unaided eye and can be retained by United States Standard No. 30 sieve (28 meshes per inch, 0.595 mm openings) and live at least part of their life cycles within or upon available substrates in a body of water or water transport system.

Permanent water supply—A well, interconnection with a public water supply, extension of a public water supply, similar water supply or a treatment system determined by the Department to be capable of restoring the water supply to the quantity and quality of the original unaffected water supply.

Permit—A permit issued by the Department to operate a residual waste disposal or processing facility or to beneficially use residual waste. The term includes a general permit, permit-by-rule, permit modification, permit reissuance and permit renewal.

Permit area—The area of land and water within the boundaries of the permit which is designated on the permit application maps as approved by the Department. The term includes areas which are or will be used or affected by the residual waste processing or disposal facility.

Permit-by-rule—A permit which a person or municipality is deemed to have for the operation of a facility or an activity upon compliance with § 287.102 (relating to permit-by-rule).

Person—An individual, partnership, corporation, association, institution, cooperative enterprise, municipal authority, Federal government or agency, State institution and agency—including the Department of General Services and the State Public School Buildings Authority—or another legal entity which is recognized by law as the subject of rights and duties. In the provisions of this article pertaining to a fine or penalty, or both, the term includes the officers and directors of a corporation or other legal entity having officers and directors.

Pollution—The contamination of air, water, land or other natural resources of this Commonwealth which will create or is likely to create a public nuisance or render the air, water, land or other natural resources harmful, detrimental or injurious to public health, safety or welfare, or to domestic, municipal, commercial, industrial, agricultural, recreational or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other life.

Postclosure—Activities after closure which are necessary to ensure compliance with the act and this article, including application of final cover, grading and revegetation; groundwater, surface water and gas monitoring; erosion control and gas control; leachate treatment, and abatement of pollution or degradation to land, water, air or other natural resources.

Principal shareholder—A person or municipality that owns, holds or controls at least 5% of the stock of a publicly held corporation or at least 10% of the stock of a privately held corporation.

Processing—

(i) The term includes one or more of the following:

(A) A method or technology used for the purpose of reducing the volume or bulk of municipal or residual waste or a method or technology used to convert part or all of the waste materials for offsite reuse.

(B) Transfer facilities, composting facilities and resource recovery facilities.

(ii) The term does not include a collection center that is only for source separated recyclable materials, including clear glass, colored glass, aluminum, steel and bimetallic cans, high-grade office paper, newsprint, corrugated paper and plastics.

Product—A commodity that is the sole or primary intended result of a manufacturing or production process.

Radioactive material—A substance which spontaneously emits alpha or beta particles or photons (gamma radiation) in the process of decay or transformation of the atom's nucleus.

Raw material—Material, including crude material, that can be converted by manufacture or processing into a product.

Rechanneling—The moving or relocation of a channel or stream and the reestablishment of the channel or stream to its former condition at a new location. The term does not include stream or channel enclosures, rock drains or the use of other materials to facilitate water flow under a facility.

Reclaimed—A material is "reclaimed" if it is processed to recover a useable product, or if it is regenerated.

Recycled—A material is "recycled" if it is used, reused or reclaimed.

Refuse—Solid waste.

Regional groundwater table—The fluctuating upper water level surface of an unconfined or confined aquifer, where the hydrostatic pressure is equal to the ambient atmospheric pressure. The term does not include the perched water table or the seasonal high water table.

Related party—A person or municipality engaged in solid waste management that has a financial relationship to a permit applicant or operator. The term includes a partner, associate, officer, parent corporation, subsidiary corporation, contractor, subcontractor, agent or principal shareholder of another person or municipality, or a person or municipality that owns land on which another person or municipality operates a solid waste management facility.

Remediation standards—Background, Statewide health and site-specific standards as those terms are defined under this article.

Residual waste—Garbage, refuse, other discarded material or other waste, including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous. The term does not include coal refuse as defined in the Coal Refuse Disposal Control Act. The term does not include treatment sludges from coal mine drainage treatment plants, disposal of which is being carried on under and in compliance with a valid permit issued under the Clean Streams Law.

Residual waste disposal impoundment—A facility for disposing of residual waste by impoundment.

Residual waste disposal or processing facility—A facility for disposing or processing of residual waste.

Residual waste landfill—A facility for disposing of residual waste. The term does not include a residual waste disposal impoundment or a facility for the land application of residual waste. The term also does not include a facility at which municipal waste, other than industrial lunchroom or office waste generated by the operator, construction/demolition waste generated by the operator, or certain special handling waste is disposed.

Risk-based standard—A risk-based abatement standard for substances that have no primary MCLs under the Federal and State Safe Drinking Water Acts (42 U.S.C.A. §§ 300F—300J-18 and 35 P. S. §§ 721.1—721.17).

(i) For carcinogens, the standard represents a concentration associated with an excess lifetime cancer risk level between $1x10^{-4}$ and $1x10^{-6}$, including the cumulative risk of all contaminants.

(ii) For systemic toxicants, the standard represents a concentration to which the human population (including sensitive subgroups) could be exposed on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime.

(iii) When several systemic toxicants affect the same target organ or act by the same method of toxicity, the hazard index may not exceed one.

Salvaging—The controlled removal of material from a solid waste processing or disposal facility.

Scrap metal—Bits and pieces of metal parts—for example—bars, turnings, rods, sheets and wire—or metal pieces that may be combined together with bolts or soldering—for example, radiators, scrap automobiles and railroad box cars—and which when worn or superfluous, can be reused.

Seasonal high water table—The minimum depth from the soil surface at which redoximorphic features are present in the soil.

Secondary contaminants—A substance for which a secondary MCL exists, and no lifetime health advisory level exists.

Sewage sludge—Liquid or solid sludges and other residues from a municipal sewage collection and treatment system; and liquid or solid sludges and other residues from septic and holding tank pumpings from commercial, institutional or residential establishments. The term includes material derived from sewage sludge. The term does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator, grit and screening generated during preliminary treatment of sewage sludge at a municipal sewage collection and treatment system or grit, screenings and nonorganic objects from septic and holding tank pumpings.

Site—The area where a residual waste processing or disposal facility is operated. If the operator has a permit to operate the facility, and is operating within the boundaries of the permit, the site is equivalent to the permit area.

Site-specific standard—A numerical value as determined under section 304 of the Land Recycling and Environmental Remediation Standards Act (35 P. S. § 6026.304) and Chapter 250, Subchapter F (relating to exposure and risk determinations).

Soil additive or *soil substitute*—The land application of coal ash or residual waste, at specified loading or application rates, to replace soil that was previously available at the site, to enhance soil properties or to enhance plant growth. The term does not include structural fills, construction material, valley fills, or the use of coal ash or residual waste to fill open pits from coal or noncoal mining or the disposal of coal ash.

Soil mottling—Irregularly marked spots in the soil profile that vary in color, size and number.

Solid waste—Waste, including, but not limited to, municipal, residual or hazardous waste, including solid, liquid, semisolid or contained gaseous materials. The term does not include coal ash that is beneficially used under Subchapter H (relating to beneficial use) or drill cuttings.

Source material—The Federal definition for "source material" in 10 CFR 20.1003 is incorporated by reference.

Source reduction—The reduction or elimination of the quantity or toxicity of residual waste generated, which may be achieved through changes within the production process, including process modifications, feedstock substitutions, improvements in feedstock purity, shipping and packing modifications, housekeeping and management practices, increases in the efficiency of machinery and recycling within a process. The term does not include dewatering, compaction, waste reclamation or the use or reuse of waste.

Special handling waste—Solid waste that requires the application of special storage, collection, transportation, processing or disposal techniques due to the quantity of material generated or its unique physical, chemical or biological characteristics. The term includes dredged material, sewage sludge, infectious waste, chemotherapeutic waste, ash residue from a solid waste incineration facility, friable asbestos-containing waste, PCB-containing waste, waste oil that is not hazardous waste, fuel contaminated soil, waste tires and water supply treatment plant sludges.

Special nuclear material—The Federal definition for "special nuclear material" in 10 CFR 20.1003 is incorporated by reference.

(i) The term "Commission" refers to the Nuclear Regulatory Commission.

(ii) The term "act" refers to the Atomic Energy Act of 1954 (42 U.S.C.A. §§ 2011—2297h-13).

(iii) The term "Department" shall be substituted for the term "Commission" when the Department assumes agreement state status from the Nuclear Regulatory Commission.

Spent material—Material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

Standard Industrial Code Number—A number assigned to a corresponding type of industry, manufacture or product under the Standard Industrial Code prepared by the United States Office of Management and Budget.

Statewide health standard—A numerical value as determined under section 303 of the Land Recycling and Environmental Remediation Standards Act (35 P. S. § 6026.303) and §§ 250.304, except for subsection (d), 250.305 and 250.308 (relating to MSCs for groundwater; MSCs for soil; and soil to groundwater pathway numeric values).

Steel slag—The uncontaminated, nonwater-soluble, solid material generated in the making of steel in an electric arc furnace, open hearth furnace, blast furnace or secondary steel-refining process.

Storage—The containment of waste on a temporary basis in a manner that does not constitute disposal of the waste. It shall be presumed that containment of waste in excess of 1 year constitutes disposal. This presumption can be overcome by clear and convincing evidence to the contrary.

Storage impoundment—An impoundment that is designed to hold an accumulation of liquid waste for storage, processing or treatment, but not disposal.

Structural fill—The engineered use of coal ash as a base or foundation for a construction activity that is completed promptly after the placement of the coal ash, including the use of coal ash as a backfill material for retaining walls, foundations, ramps or other structures. The term does not include valley fills or the use of solid waste to fill open pits from coal or noncoal mining.

Surety bond—A penal bond agreement in a sum certain, payable to the Department, executed by the operator and a corporation licensed to do business as a surety in the Commonwealth and approved by the Department, which is supported by the guarantee of payment on the bond by the surety.

Surface land disposal—Application of solid waste to the land surface for purposes other than agricultural utilization or land reclamation.

Tank—A stationary containment device which provides its own structural support and is constructed entirely of nonearthen and nonwood materials.

Temporary water supply—Bottled water, a water tank supplied by a bulk water hauling system and similar water supplies in quantities sufficient to accommodate normal usage.

TENORM—Technologically enhanced naturally occurring radioactive materials—TENORM is not subject to regulation under the laws of the Commonwealth or the Atomic Energy Act, whose radionuclide concentrations or potential for human exposure have been increased above levels encountered in the natural state by human activities.

Topmost—The bedrock lithology unit closest to the surface of the earth.

Transfer facility—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. The term includes a facility that uses a method or technology to convert part or all of the waste materials for offsite reuse. The term does not include a collection or processing center that is only for source separated recyclable materials, including clear glass, colored glass, aluminum, steel and bimetalic cans, high-grade office paper, newsprint, corrugated paper and plastics.

Transportation—The offsite removal of solid waste after generation.

Transuranic radioactive material—Material contaminated with elements that have an atomic number greater than 92, including neptunium, plutonium, americium and curium.

Treatment—A method, technique or process, including neutralization, designed to change the physical, chemical or biological character or composition of waste to neutralize the waste or to render the waste nonhazardous, safer for transport, suitable for recovery, suitable for storage or reduced in volume. The term includes an activity or process designed to change the physical form or chemical composition of waste to render it neutral or nonhazardous.

Unconfined aquifer—An aquifer in which the uppermost surface is at atmospheric pressure.

Used oil—A petroleum-based or synthetic oil which is used in an internal combustion engine as an engine lubricant, or as a product for lubricating motor vehicle transmissions, gears or axles which through use, storage or handling has become unsuitable for its original purpose due to the presence of chemical or physical impurities or loss of original properties.

Used oil recycling—Preparing used oil for reuse as a petroleum product or petroleum product substitute by refining, rerefining, reclaiming, reprocessing or other means, or preparing used oil in a manner that substitutes for a petroleum product made from new oil, if the preparation or use is operationally safe, environmentally sound and complies with laws and regulations.

Used or reused—A material that meets one of the following conditions:

(i) The material is employed as an ingredient, including use as an intermediate, in an industrial process to make a product. A material will not satisfy this condition if distinct components of the material are recovered as separate end products, as when metals are recovered from metal-containing secondary materials.

(ii) The material is employed in a particular function or application as an effective substitute for a commercial product.

Visible emissions—Emissions that are visually detectable without the aid of instruments. The term does not include condensed uncombined water vapor.

Waste—

(i) Discarded material which is recycled or abandoned. A waste is abandoned by being disposed of, burned or incinerated or accumulated, stored or processed before or in lieu of being abandoned by being disposed of, burned or incinerated. A discarded material includes contaminated soil, contaminated water, contaminated dredge material, spent material or by-product recycled in accordance with subparagraph (iii), processed or disposed.

(ii) Materials that are not waste when recycled include materials when they can be shown to be recycled by being:

(A) Used or reused as ingredients in an industrial process to make a product or employed in a particular function or application as an effective substitute for a commercial product, provided the materials are not being reclaimed. This includes materials from the slaughter and preparation of animals that are used as raw materials in the production or manufacture of products. Steel slag is not waste if used onsite as a waste processing liming agent in acid neutralization or onsite in place of aggregate. Sizing, shaping or sorting of the material will not be considered processing for the purpose of this subclause of the definition.

(B) Coproducts.

(C) Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material shall be returned as a substitute

for feedstock materials. When the original process to which the material is returned is a secondary process, the materials shall be managed so that there is no placement on the land and the secondary process takes place onsite.

(iii) The following materials are wastes, even if the recycling involves use, reuse or return to the original process (as described as follows):

(A) Except for coproducts, materials used in a manner constituting disposal, or used to produce products that are applied to the land.

(B) Except for coproducts, materials burned for energy recovery, used to produce fuel or contained in fuel.

(C) Materials accumulated speculatively.

(iv) Discarded or recycled material may not be waste if a determination is made by the Department in accordance with § 287.7 (relating to determination that a material is no longer a waste).

(v) In enforcement actions implementing the act, a person who claims that the material is not a waste in accordance with subparagraph (ii) shall demonstrate that there is a known market or disposition for the material, and that the terms of the exclusion have been met. In doing so, appropriate documentation shall be provided (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste. In addition, owners or operators of facilities claiming that they actually are recycling materials shall show that they have the necessary equipment to do so.

Waste classification standard—For purposes of this article, the waste classification standard for a contaminant shall be:

(i) The final maximum contaminant level goal (MCLG) for the contaminant determined by the Department or the EPA under the Safe Drinking Water Acts (21 U.S.C.A. § 349; 42 U.S.C.A. §§ 300f—300j-25; and 35 P. S. §§ 721.1—721.17), if one exists, unless the MCLG is 0.

(ii) For contaminants for which no MCLG has been established, or for contaminants for which the MCLG has been established as 0, the final primary maximum contaminant level (MCL) for the contaminant determined by the Department or the EPA under the Safe Drinking Water Acts, if one exists.

(iii) For contaminants for which no MCLG has been established or for which the MCLG has been established as 0, and for which no MCL has been established, the final secondary maximum contaminant level (SMCL) for the contaminant determined by the Department or the EPA under the Safe Drinking Water Acts, if one exists.

(iv) For other contaminants, the more stringent of the following concentrations:

(A) For EPA Class A or Class B carcinogens, as specified in the EPA's IRIS or its successor, 0.000035 divided by the oral cancer slope factor of the contaminant in units of $(mg/kg/day)^{-1}$ obtained from IRIS or its successor. The quotient shall be expressed in units of mg/l. Information about IRIS and access methods to IRIS may be obtained from IRIS user support (MS-190), Environmental Criteria and Assessment Office, Office of Research and Developement, United States Environmental Protection Agency, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45286.

(B) For contaminants which produce noncarcinogenic effects, 35 times the oral chronic reference dose in units of mg/kg/day obtained from IRIS or its successor. The product shall be expressed in units of mg/l.

Waste oil—Oil refined from crude oil or synthetically produced, used and as a result of the use, contaminated by physical or chemical impurities. The term includes used oil.

Water source—The site or location of a well, spring or water supply stream intake which is used for human consumption.

Water supply—Existing, designated or planned sources of water or facilities or systems for the supply of water for human consumption or for agricultural, commercial, industrial or other legitimate use, protected by the applicable water supply provisions of § 93.3 (relating to protected water uses).

Wetlands—Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas.

§ 287.2. Scope.

(a) This chapter specifies general procedures and rules for persons or municipalities who generate, manage or handle residual waste. This article specifies the Department's requirements for residual waste processing, disposal, transportation, collection and storage.

(b) Management of the following types of residual waste is subject to Article VIII (relating to municipal waste) instead of this article, and shall be regulated as if the waste is municipal waste regardless of whether the waste is a municipal waste or residual waste:

(1) Construction/demolition waste, as defined in § 271.1 (relating to definitions).

(2) Infectious and chemotherapeutic waste. The terms shall have the same meaning for residual waste as set forth in § 271.1.

(3) Leaf waste and grass clippings.

(4) Waste from land clearing, grubbing and excavation, including trees, brush, stumps and vegetative material.

(c) Management of the following types of waste is subject to this article instead of Article VIII, and shall be regulated as if the waste is residual waste, regardless of whether the waste is municipal waste or residual waste:

(1) Water supply treatment plant sludges.

(2) Waste oil that is not hazardous waste.

(3) Waste tires and autofluff.

(4) Contaminated soil.

(5) Used asphalt.

(6) Dredged material.

(d) The disposal, processing, storage and transportation at a municipal waste management facility of the following types of special handling waste is subject to the applicable additional requirements for the disposal, processing, storage and transportation of these wastes in this article, and shall be regulated as if the waste is residual waste regardless of whether the waste is municipal waste or residual waste:

(1) Friable asbestos-containing waste.

(2) PCB-containing waste.

(e) The following activities shall be regulated under Chapter 77 (relating to noncoal mining), instead of this article:

(1) The short-term storage of residual waste generated by noncoal surface mining activities, as defined in § 77.1 (relating to definitions), under a permit under the Noncoal Surface Mining Conservation and Reclamation Act (52 P. S. §§ 3301—3326), if the residual waste is being stored within the permit area of the site where it was generated.

(2) The stockpiling and use of residual waste generated by noncoal surface mining activities, as defined in § 77.1, at the site where it is generated, to reclaim the land affected by the activities pursuant to a permit under the Noncoal Surface Mining Conservation and Reclamation Act.

(f) The extraction, processing, handling and short-term storage of slag pursuant to a permit under the Noncoal Surface Mining Conservation and Reclamation Act shall be regulated under Chapter 77, if applicable, instead of this article, if the slag to be excavated, processed, handled or stored on a short-term basis is not hazardous waste and does not contain solid waste other than slag.

(g) A pit, impoundment, method or facility employed for the disposal, storage or processing of residual waste which is generated by drilling or production of an oil or gas well, and is located on the well site as defined in section 603a of the Oil and Gas Act (58 P. S. § 601.603a), shall be regulated under Chapter 78 (relating to oil and gas wells), instead of this article, if the owner or operator of the well meets the conditions of section 603a of the Oil and Gas Act.

(h) The management and disposal of low-level radioactive waste shall be regulated under Chapter 236 (relating to low-level radioactive waste management and disposal), instead of this article.

(i) If residual waste is disposed, processed or treated at a permitted hazardous waste treatment, storage or disposal unit at a facility, it shall be managed as a hazardous waste at that unit under Article VII (relating to hazardous waste management) rather than as a residual waste under this article.

(j) Action taken by the Department under this article will be subject to the Environmental Hearing Board Act (35 P. S. §§ 7511—7514) and Chapter 1021 (relating to practice and procedures).

(k) The Department may waive or modify requirements in this article that would otherwise apply to a residual waste management facility that is permitted by the EPA under the Toxic Substances Control Act (15 U.S.C.A. §§ 2601—2629).

§ 287.4. Computerized data submission.

(a) Data required under this article may be submitted electronically or on magnetic or optic storage media in a format specified by the Department, if authorized by the Department.

(b) Data required under this article shall be submitted electronically or on magnetic or optic storage media in a format specified by the Department, if required by the Department.

(c) The Department may require a different scale than required in the application and operation requirements in this article to facilitate the use of data on maps, reports and plans submitted electronically or on magnetic or optic storage media.

§ 287.8. Coproduct determinations.

(a) In addition to meeting the conditions of the definition of "coproduct" in § 287.1 (relating to definitions), a person performing a coproduct determination shall evaluate chemical composition and threat of harm to the environment and public health in accordance with this section. A proposed coproduct may not present a greater threat of harm to human health and the environment than use of an intentionally manufactured product or produced raw material. A greater threat of harm is presented if one of the following is met:

(1) For comparison of the proposed coproduct with a product or produced raw material, hazardous or toxic constituents are present at elevated levels unless an assessment of hazardous and toxic constituents demonstrates that the constituents are not biologically available.

(2) For a proposed coproduct where no product or produced raw material will be replaced, an assessment of hazardous and toxic constituents demonstrates that the constituents are not biologically available.

(b) If the proposed coproduct is being compared to an intentionally manufactured product or produced raw material, a person performing a coproduct determination shall demonstrate that the use of a proposed coproduct does not present a greater threat of harm to human health and the environment by performing the following:

(1) An evaluation to determine which, if any, hazardous or toxic constituents are present in the proposed coproduct at levels exceeding those found in the material it is replacing.

(2) An evaluation of the total levels of hazardous or toxic constituents, including the constituents in § 261.34(e) (relating to appendices), to determine whether the total levels of constituents contained in the proposed coproduct exceed the total levels found in the intentionally manufactured product or produced raw material it is replacing. Based on generator knowledge, if a hazardous or toxic constituent is not present evaluation of total levels is not required.

(3) An evaluation of the levels of leaching of hazardous or toxic constituents, including the constituents in § 261.34(e), to determine whether the levels of leaching from the proposed coproduct exceed the levels of leaching from the manufactured product or produced raw material it is replacing. A leaching procedure shall be performed that is appropriate for the intended use of the proposed product. Based on generator knowledge, if a hazardous or toxic constituent is not present evaluation of leaching levels is not required.

(4) The routes of exposure to humans and ecological receptors shall be identified. These routes of exposure shall include ingestion, inhalation, dermal contact, leaching to the groundwater, plant uptake and surface runoff potential. Mitigating circumstances, such as protective gear worn by workers to reduce exposure during processing or application of the proposed coproduct, shall be identified.

(5) The use of a 95% upper confidence interval, using the "*Test Methods for Evaluating Solid Waste*" (EPA SW-846), may be applied to the comparisons of constituent levels between the proposed coproduct and the intentionally manufactured product or produced raw material it is replacing.

(c) If the proposed coproduct is not being compared to an intentionally manufactured product or produced raw material, a person performing a coproduct determination shall demonstrate that the proposed coproduct does not present a threat of harm to human health and the

environment and the hazardous or toxic constituents are not biologically available by performing the following:

(1) An evaluation of the total levels of hazardous or toxic constituents, including the constituents in § 261.34(e). Based on generator knowledge, if a hazardous or toxic constituent is not present evaluation of total levels is not required.

(2) An evaluation of the levels of leaching of hazardous or toxic constituents, including the constituents in § 261.34(e). Based on generator knowledge, if a hazardous or toxic constituent is not present evaluation of leaching levels is not required.

(3) The routes of exposure to humans and ecological receptors shall be identified. These routes of exposure include ingestion, inhalation, dermal contact, leaching to the groundwater, plant uptake and surface runoff potential. Mitigating circumstances, such as protective gear worn by workers to reduce exposure during processing or application of the proposed coproduct, shall be identified.

(4) The use of a 95% upper confidence interval, using the "*Test Methods for Evaluating Solid Waste*" (EPA SW-846), may be applied to the analytical results of the constituents evaluated.

(d) A person who completes a coproduct determination shall maintain documentation supporting the determination. This documentation shall be available to the Department upon request.

(e) A person who completes a coproduct determination shall provide documentation supporting the determination to persons selling, transferring, possessing or using the material.

§ 287.9. Industry-wide coproduct determinations.

(a) Based on existing documentation for coproduct determinations, the Department may determine that, on an industry-wide basis, classes of materials are coproducts for specific uses if the following conditions are met:

(1) Chemical and physical characteristics of the material generated do not vary over time.

(2) Historical use of the material complies with industry standards and specifications.

(3) Historical use of the material over an extended time period has demonstrated that the material, when used as specified, performs as an effective substitute for an intentionally manufactured product or produced raw material.

(4) There is historical documentation that a market for the material and its use exists.

(5) Historical use of the material does not violate the Environmental Protection Acts or regulations thereunder and does not harm or present a threat of harm to public health, safety, welfare or the environment based on an evaluation under § 287.8 (relating to coproduct determinations).

(b) The Department may establish a list of approved coproducts that meet the requirements of subsection (a). The Department will publish notice of its intent to establish or modify the list in the *Pennsylvania Bulletin* and will establish a comment period of at least 30 days. After the close of the 30-day comment period, the Department will publish the final list or any modification to the final list in the *Pennsylvania Bulletin*.

(c) The Department may remove an approved coproduct from the list if it finds that one or more of the criteria used as a basis for the Department's determination was incorrect, or new information has become available that invalidates the determination. Removal of an approved coproduct from the list will be published in the *Pennsylvania Bulletin* with a comment period of at least 30 days. After the close of the comment period, the Department will publish any modification of the list in the *Pennsylvania Bulletin*.

§ 287.10 Coproduct determination transition.

(a) A coproduct determination made after January 13, 2001, shall be performed in accordance with this chapter.

(b) A person may continue to operate under a coproduct determination made prior to January 13, 2001, provided that the person maintains documentation that demonstrates continuing compliance with the coproduct determination.

(c) After January 13, 2003, a person shall only operate under a coproduct determination that meets the requirements of this chapter.

Subchapter B. DUTIES OF GENERATORS

§ 287.51. Scope.

(a) A person or municipality that generates more than an average of 2,200 pounds of residual waste per generating location per month based on generation in the previous year shall comply with the biennial report and source reduction strategy requirements under §§ 287.52 and 287.53 (relating to biennial report; and source reduction strategy).

(b) A person or municipality that generates more than 2,200 pounds of residual waste per generating location in any single month in the previous year shall comply with § 287.54 (relating to chemical analysis of waste). The Department may waive or modify this requirement for individual types of waste that are generated in quantities of less than 2,200 pounds per month per generating location.

(c) Sections 287.52—287.54 (relating to biennial report; source reduction strategy; and chemical analysis of waste) do not apply to the following:

(1) Persons or municipalities that generate residual waste as a result of collecting the waste, including the collection of parts, machinery, vehicles, appliances and used oil from the repair or replacement of the parts, machinery, vehicles, appliances and used oil.

(2) Persons or municipalities that create waste from a spill, release, fire, accident or other unplanned event.

(d) Generators and collectors of used oil who are also waste oil marketers are subject to § 266.43 (relating to standards applicable to marketers of waste oil burned for energy recovery).

§ 287.52. Biennial report.

(a) By March 1 of each odd numbered year, a person or municipality subject to this subchapter shall file a report with the Department.

(b) The report, which shall be submitted on a form prepared by the Department, shall include the following:

(1) The name, mailing address, county and telephone number of the person or municipality that generated the waste.

(2) A generator identification number for the facility that generated the waste, which will be provided by the Department. If an EPA identification number has been assigned to the person or municipality, the EPA identification number shall be the generator number.

(3) The name and telephone number of a contact person who can answer questions about the report.

(4) A brief description of the nature of the business and up to four Standard Industrial Code (SIC) numbers which best reflect the principal products or services provided by the facility.

(5) The types of residual waste generated in the previous year, related SIC numbers and weight of each type of residual waste. For each type of residual waste, the report shall also state:

(i) Whether the waste was disposed or processed on the premises where it was generated or at a facility that is not on the premises where the waste was generated.

(ii) Whether the waste was liquid waste.

(iii) If the generating facility was required to file a Toxic Chemical Release Inventory (TRI) Reporting Form under section 313 of the Emergency Planning and Community Right to Know Act (42 U.S.C.A. § 11023), Chemical Abstract Service Registry numbers, as they appear in the Reporting Form, for up to five constituents that represent the most concentrated reportable constituents in the waste.

(6) A description of the generator's efforts to implement its source reduction strategy under § 287.53 (relating to source reduction strategy) and, to the extent the information is available for years before 1991, a description of changes in the weight or toxicity of waste achieved during the year compared to previous years.

(7) The name, location and permit identification number for each processing or disposal facility that has been authorized to receive the generator's waste.

(c) The report shall be signed by a responsible official for the person or municipality that generated the residual waste. If the person or municipality is a corporation, limited liability company or partnership, the report shall be signed by an officer of the corporation, manager of the limited liability company or a partner in the partnership, whichever is applicable.

§ 287.53. Source reduction strategy.

(a) A person or municipality subject to this subchapter shall prepare a source reduction strategy in accordance with this section. Except as otherwise provided in this article, the strategy shall be maintained on the premises where the waste is generated, shall be available on the premises for inspection by a representative of the Department and shall be submitted to the Department upon request.

(b) For each type of waste generated, the strategy shall include:

(1) A description of the source reduction activities conducted by the person or municipality in the 5 years prior to the date that the strategy is required to be prepared. The description shall quantify reductions in the weight or toxicity of waste generated on the premises.

(2) A statement of whether the person or municipality has established a source reduction program.

(3) If the person or municipality has established a source reduction program as described in paragraph (2), the strategy shall identify the methods and procedures that the person or municipality will implement to achieve a reduction in the weight or toxicity of the waste generated on the premises, quantify the projected reduction in weight or toxicity of waste to be achieved by each method or procedure and specify when each method or procedure will be implemented.

(4) If the person or municipality has not established a source reduction program as described in paragraph (2), the strategy shall include the following:

(i) A waste stream characterization, including source, hazards, chemical analyses, properties, generation rate, management techniques and management costs.

(ii) A description of potential source reduction options.

(iii) A description of how the options were evaluated.

(iv) An explanation of why each option was not selected.

(c) The strategy required by this section shall be updated when one or more of the following occur:

(1) There is a significant change in a type of waste generated on the premises or in the manufacturing process, other than a change described in the strategy as a source reduction method.

(2) Every 5 years, unless the Department establishes, in writing, a different period for the person or municipality that generated the waste.

(d) If residual waste generated by a person or municipality will be processed or disposed of at a solid waste management facility which has applied to the Department for approval to process or dispose of the waste, the person or municipality that generated the residual waste shall submit the source reduction strategy required by this section to the facility upon the request of the facility. If residual waste generated by a person or municipality is processed or disposed of at a solid waste management facility which has received written approval from the Department to process or dispose of the waste, the person or municipality shall submit the source reduction strategy required by this section to the facility whenever the Department requires the person or municipality to update the strategy.

(e) The strategy shall be signed by a responsible official for the person or municipality that generated the waste. If the person or municipality is a corporation, limited liability company or partnership, the report shall be signed by an officer of the corporation, manager of the limited liability company or a partner in the partnership, whichever is applicable.

(f) The Department may in writing waive or modify the requirements of this section for research and developement activities.

§ 287.54. Chemical analysis of waste.

(a) In accordance with subsection (b), a person or municipality subject to this subchapter shall:

(1) Perform a detailed analysis that fully characterizes the physical properties and chemical composition of each type of waste that is generated. This analysis shall include available information from material safety data sheets or similar sources that may help characterize the physical properties and chemical composition of the waste.

(2) Make a determination of whether the waste is a hazardous waste under Chapter 261a (relating to identification and listing of hazardous waste) and 40 CFR Part 261 (relating to identification and listing of hazardous waste) to the extent incorporated in § 261a.1 (relating to incorporation by reference, purpose and scope).

(3) Submit a copy of the analysis, determination and a record of laboratory quality control procedures and the use of those procedures to the Department on forms prepared by the Department and to each solid waste management facility which accepts or proposes to accept the waste from the person or municipality for processing or disposal in accordance with written approval from the Department. The information which shall be submitted to a solid waste management facility may be limited to information pertaining to the particular types of waste which the facility receives in accordance with Departmental approval. The submittal of quality control procedures and procedure information may be waived by the Department if the information has been previously submitted to the Department.

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(g) Notwithstanding the certification permitted in subsection (f), a chemical analysis that meets the requirements of subsections (a), (c) and (d) shall be completed every five years.

(h) The Department may, in writing, waive or modify the requirements of this section for special handling waste.

§ 287.55. Retained recordkeeping.

(a) A person or municipality that generates any quantity of residual waste shall:

(1) Maintain records that include the types and amounts of waste generated, the date on which the waste was generated, the date on which the waste was disposed of or processed onsite, the name, address and telephone number of a person or municipality that transported the waste and the name, address and phone number of the processing or disposal facility or other destination to which the waste was transported.

(2) Retain the records on the premises where the residual waste was generated for 5 years after the waste was generated.

(3) Make the records available for inspection upon request to a representative of the Department.

(b) This section does not apply to residual waste generated in a house or residence.

Subchapter C. GENERAL REQUIREMENTS FOR PERMITS AND PERMIT APPLICATIONS

GENERAL

§ 287.101. General requirements for permit.

(a) Except as provided in subsection (b), a person or municipality may not own or operate a residual waste disposal or processing facility unless the person or municipality has first applied for and obtained a permit for the activity from the Department under this article.

(b) A person or municipality is not required to obtain a permit under this article, comply with the bonding or insurance requirements of Subchapter E (relating to bonding and insurance requirements) or comply with Subchapter B (relating to duties of generators) for one or more of the following:

(1) Agricultural waste produced in the course of normal farming operations, if the waste is not hazardous. An agricultural waste will be presumed to be produced in the course of normal farming operations if its application is consistent with that for normal farming operations. A person managing mushroom waste shall implement best management practices. The Department will prepare a manual for the management of mushroom waste which identifies best management practices and may approve additional best management practices on a case-by-case basis. If a person fails to implement best management practices for mushroom waste, the Department may require compliance with the land application, composting and storage operating requirements of Chapters 291, 295 and 299 (relating to land application of residual waste; composting facilities for residual waste; storage and transportation of residual waste).

(2) The use of food processing waste or food processing sludge in the course of normal farming operations if the waste is not hazardous. A person managing food processing waste shall implement best management practices. The Department will prepare a manual for the management of food processing waste which identifies best management practices and may approve additional best management practices on a case-by-case basis. If a person fails to implement best management practices for food processing waste, the Department may require compliance with the land application, composting and storage operating requirements of Chapters 291, 295 and 299.

(3) The beneficial use of coal ash under Subchapter H (relating to beneficial use).

(4) The activities described in § 287.2(e)—(h) (relating to scope).

(5) The processing or disposal of residual waste described in § 287.2(b) that is subject to a permit issued by the Department under Article VIII (relating to municipal waste).

(6) The use as clean fill of the materials in subparagraphs (i) and (ii) if they are separate from other waste. The person using the material as clean fill has the burden of proof to demonstrate that the material is clean fill.

(i) The following materials, if they are uncontaminated: soil, rock, stone, gravel, brick and block, concrete and used asphalt.

(ii) Waste from land clearing, grubbing and excavation, including trees, brush, stumps and vegetative material.

(7) Processing that results in the beneficial use of scrap metal.

(c) Subsection (b) does not relieve a person or municipality of the requirements of the environmental protection acts or regulations promulgated thereto. Notwithstanding subsection (b), the Department may require a person or municipality to apply for, and obtain, an individual or general solid waste permit, or take other appropriate action, when the person or municipality is conducting a solid waste activity that harms or presents a threat of harm to the health, safety or welfare of the people or the environment of this Commonwealth.

(d) The Department will not require a permit under this article for cleanup or other remediation at the site of a spill, release, fire, accident or other unplanned event, unless the site is part of a permit area for an active facility or the proposed permit area in an application. In requiring cleanup or other remediation at the site, the Department may require compliance with only those provisions of this article that the Department determines necessary to protect human health, safety, welfare and the environment.

(e) The Department will not require a permit under this article for the movement of waste encountered when performing a site remediation under Chapter 250 (relating to administration of land recycling program) where

the site-specific standard is specified as the remediation goal for contamination of soil and groundwater, provided the following conditions are met:

(1) The response to the release of regulated substances is being conducted pursuant to the site-specific standard in Chapter 250, Subchapter D (relating to site-specific standards).

(2) The area containing the waste unit is part of the site, as identified under the notice of intent to remediate (NIR), and the notice includes identification of the waste types.

(3) The excavation, movement and placement onsite of the waste shall be incorporated as part of the remedial investigation report which shall be approved by the Department prior to the initiation of remediation activities. The report shall include plans for grading, construction and management of the wastes. The disturbance of a waste disposal unit that is not part of an approved remedial investigation report is not covered under this permit waiver.

(4) The excavation, movement and placement of waste materials onsite may not increase the potential for onsite or offsite runoff of water or dispersal of waste.

(5) The excavation, movement and placement of waste onsite may not adversely affect or endanger public health, safety, welfare, or the environment or cause a public nuisance.

(6) Waste may not be stored or placed in waters of the Commonwealth or in a manner that will cause groundwater or surface water degradation.

§ 287.102. Permit-by-rule.

(a) *Purpose.*

(1) This section sets forth classes of facilities that are subject to permit-by-rule. A facility will not be deemed to have a permit-by-rule if it causes or allows violations of the act, the regulations promulgated thereunder, the terms or conditions of a permit issued by the Department or causes a public nuisance. A facility that is subject to permit-by-rule under this section is not required to apply for a permit under this article or comply with the operating requirements of Chapters 288—297, if that facility operates in accordance with this section.

(2) A facility is not subject to permit-by-rule under this section unless it meets the following:

(i) The facility complies with Chapter 299 (relating to storage and transportation of residual waste), except as provided in subsections (b)(7), (c)(3) and (k).

(ii) The facility or activity has the other necessary permits under the applicable environmental protection acts, and is operating under the acts and the regulations promulgated thereunder, and the terms and conditions of the permits.

(3) A facility is not subject to permit-by-rule under this section unless the operator prepares and maintains the following at the facility in a readily accessible place:

(i) A copy of a Preparedness, Prevention and Contingency (PPC) plan that is consistent with the Department's most recent guidelines for the developement and implementation of PPC plans.

(ii) Daily records of the weight or volume of waste that is processed, the method and location of processing or disposal facilities for wastes from the facility, and waste handling problems or emergencies.

(4) Subchapter E (relating to bonding and insurance requirements) is not applicable to facilities which are deemed to have a permit under this section.

(5) Subchapter F (relating to civil penalties and enforcement) is applicable to facilities subject to this section.

(6) The Department may require a person or municipality subject to permit-by-rule to apply for, and obtain, an individual or general permit, or take other appropriate action, when the person or municipality is not in compliance with the conditions of the permit-by-rule or is conducting an activity that harms or presents a threat of harm to the health, safety or welfare of the people or the environment of this Commonwealth.

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(f) *Beneficial use.* The beneficial use of residual waste which the Department has approved, in writing, prior to July 4, 1992, shall be deemed to have a residual waste processing or disposal permit if the person or municipality uses the residual waste in accordance with the terms and conditions of the written approval and the Department has not revoked the approval. The expiration date for permits issued pursuant to this subsection is July 4, 2002, unless a specific permit term is written as a condition of the prior written approval.

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(k) *Temporary storage of residual waste at a hazardous waste transfer facility.* A facility that receives and temporarily stores residual waste at a hazardous waste transfer facility and that facilitates the transportation or transfer of that waste to a processing or disposal facility shall be deemed to have a residual waste processing permit under this article if, in addition to the requirements in subsection (a), the following are met:

(1) The residual waste is stored in accordance with the hazardous waste transfer facility requirements in 40 CFR 263.12 (relating to transfer facility requirements) as incorporated by reference in § 263a.10 and modified in § 263a.12 (relating to incorporation by reference and scope; and transfer facility requirements). The management of residual waste shall be included in the PPC plan submitted under § 263a.12.

(2) Residual waste may not be stored unless there is secondary containment around the containers.

(3) The residual waste remains in its original container and is not mixed with other waste.

(4) The containers that store residual waste are clearly labeled with the words "residual waste."

(5) Residual waste is stored separately from hazardous waste.

(6) Nonputrescible residual waste is stored in accordance with the time periods specified in § 263a.12(1). Putrescible residual waste may not be stored for more than 24 hours.

(7) The bond required under § 263a.32 (relating to bonding) includes coverage for the processing of residual waste.

(8) The operator submits a written notice to the Department that includes the name, address and the telephone number of the facility, the individual responsible for operating the facility and a brief description of the facility.

TRANSITION SYSTEM FOR EXISTING FACILITIES

§ 287.112. Storage impoundments and storage facilities.

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(f) Modification of operating requirements on repermitting are as follows:

(1) For residual waste storage impoundments permitted and constructed on or before July 4, 1992, the Department may waive or modify the liner system and leachate treatment system requirements that would otherwise be applicable under this article if the following conditions are met:

(i) The Department has approved a groundwater monitoring system for the facility and the system has been installed.

(ii) The operator demonstrates based on sampling and analysis data taken by the operator or the Department that groundwater degradation from the facility does not exceed one of the following for any contaminant:

(A) The Statewide health standard for the contaminant at the property boundary.

(B) The background standard for the contaminant at the property boundary.

(2) For residual waste storage impoundments permitted under the act or The Clean Streams Law before July 4, 1992, the Department may modify the impoundment design requirements that are otherwise applicable under § 299.144(a)(6) after an approval of a complete application for permit modification, if the operator demonstrates that the existing design is structurally as sound as the design required by § 299.144(a)(6).

(3) The Department may revoke action taken under this subsection if conditions at the site no longer meet the requirements in that paragraph.

(4) Nothing in this subsection prevents the Department from requiring the operator of a storage impoundment subject to this subsection to take measures to abate offsite leachate migration, groundwater degradation, or another public nuisance or threat of harm to public health, safety, welfare or the environment caused by the failure of the operator to install or maintain the liner system and leachate treatment system that would otherwise be required by this article.

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§ 287.115. Filing by permitted facilities.

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(c) *Modification.*

(1) For residual waste landfills permitted under the act before July 4, 1992, and residual waste disposal impoundments permitted under the act or The Clean Streams Law before July 4, 1992, the Department may waive or modify the liner system and leachate treatment requirements that would otherwise be applicable under this article after approval of a complete application for permit modification, if the following conditions are met:

(i) The Department approves, and the operator implements, a groundwater monitoring plan that meets the requirements of this article.

(ii) The operator demonstrates one of the following in the preliminary application:

(A) Groundwater degradation from the facility, based on sampling and analysis data for a 1-year period that meets the requirements of this article, does not exceed the background or Statewide health standard for a contaminant at the property boundary.

(B) The operator has complied and will continue to comply with the applicable requirements for groundwater assessment and groundwater abatement in this article and has demonstrated that the abatement will result in restoration of the groundwater to levels that are at least equivalent to the background or Statewide health standards for a contaminant at the property boundary. It is not necessary, for purposes of this demonstration, that restoration of groundwater to these levels occur before closure. However, this paragraph in no way alters the operator's obligations for final closure certification under § 287.342 (relating to final closure certification) or as otherwise provided in Subchapter E (relating to bonding and insurance requirements).

(iii) The physical properties and chemical composition of the waste have not changed since the permit was issued based on continued sampling and analysis of the waste that is consistent with the permit.

(2) For residual waste disposal impoundments permitted under the act or The Clean Streams Law before July 4, 1992, the Department may modify the impoundment design requirements that are otherwise applicable under §§ 289.271—289.273 (relating to general requirements; inside slopes; and outside slopes and terraces) after an approval of a complete application for permit modification, if the operator demonstrates that the existing design is structurally as sound as the design required in §§ 289.271—289.273.

(3) The Department may revoke action taken under this subsection if the conditions at the site no longer meet the requirements in this subsection.

(4) The liner system and leachate treatment system requirements may not be modified or waived for areas identified in an application for a new permit or permit modification submitted after January 13, 2001.

(d) *Complete application*. Within a period not to exceed 9 months after receiving notice from the Department, a person or municipality that filed a preliminary application for permit modification shall file with the Department a complete application for permit modification to correct differences between the existing permit and the requirements of this chapter. The Department's notice may specify a period of less than 9 months.

(e) *Deadline for allowing interim operation.*. By July 4, 1994, a person or municipality that operates a facility subject to this section may not dispose or process waste at the facility unless a preliminary application for permit modification or a closure plan is filed under this section.

(f) *Deadline for allowing continued operation*. By July 4, 1997, a person or municipality that operates a facility subject to this section may not store, dispose or process waste at the facility unless one of the following applies:

(1) A complete application for permit modification is filed under this section, and the Department has not yet rendered a decision with respect to the application.

(2) The person or municipality possesses a permit for the facility that is consistent with this article.

(g) *Closure plan*. A person or municipality that is required under subsection (e) or (f) to cease storage, disposal or processing of waste shall submit a closure plan under § 287.117 (relating to closure plan). An

application for a new permit shall be filed in accordance with this article to receive, process or dispose of solid waste.

§ 287.117. Closure plan.

(a) A closure plan for a residual waste processing or disposal facility submitted under § 287.113 or 287.115 (relating to permitting procedure for unpermitted processing or disposal facilities; and filing by permitted facilities) shall show how the operator plans to close in a manner that will protect public health, safety and the environment. Except as provided in subsections (c) and (d), the closure plan shall be consistent, at a minimum, with the applicable regulations for the type of facility concerning the following:

(1) Sedimentation and erosion control.

(2) Revegetation.

(3) Water quality monitoring.

(4) Bonding and insurance.

(5) For residual waste landfills and residual waste disposal impoundments:

(i) Final cover and grading.

(ii) Leachate management.

(iii) Gas venting and monitoring.

(6) For residual waste disposal impoundments, waste solidification.

(b) The Department may waive or modify the applicable regulations concerning subsection (a) if a person or municipality can demonstrate that an existing system or design performs at a level that is equivalent to the applicable regulations.

(c) A person or municipality that has submitted a water quality monitoring plan and bonding as part of the notice required by § 287.111 (relating to notice by impoundments and unpermitted processing or disposal facilities) is not required to resubmit the information as part of the closure plan.

(d) A person or municipality may propose, as part of the closure plan submitted under subsection (a), to remove standing liquids, waste and waste residues, liners, and underlying and surrounding contaminated soil, and to dispose of the waste material at a solid waste management facility that is permitted to accept the waste. The person or municipality may request final closure certification under § 287.342 (relating to final closure certification) upon completion of a closure plan approved under this section.

(e) The Department may approve, approve with modifications, or disapprove a closure plan submitted under this subchapter.

(f) A person or municipality may not implement a closure plan submitted under this subchapter until the Department has approved the closure plan.

(g) A person or municipality that submitted a closure plan to the Department under § 287.113 shall cease receiving waste at the facility and begin implementation of the closure plan on the earliest of the following dates:

(1) The date stated in the closure plan approved by the Department under this section.

(2) By July 4, 1995.

(h) A person or municipality that submitted a closure plan to the Department under § 287.115 shall cease receiving waste at the facility and begin implementation of the closure plan on the earliest of the following dates:

(1) The date stated in the closure plan approved by the Department under this section.

(2) By July 4, 1997.

(3) When the facility reaches final permitted capacity.

(i) The Department may require a person or municipality that closed a residual waste processing or disposal facility after September 7, 1980, to submit a closure plan under this section. The person or municipality shall submit the closure plan within 6 months after receiving written notice.

(j) Groundwater degradation at a solid waste facility that ceased receiving waste after September 7, 1980, shall be remediated in accordance with one of the following:

(1) An approved closure plan, permit or any administrative consent order, consent adjudication, judicially approved consent order or other settlement agreement entered into with the Department prior to January 13, 2001.

(2) Section 287.342 (relating to final closure certification), if paragraph (1) is not applicable or if a remediation is conducted under a document in paragraph (1) that has been so modified and approved.

GENERAL APPLICATION REQUIREMENTS

§ 287.122. Form of application.

(a) Applications for a permit under this chapter shall be submitted to the Department in writing, on forms provided by the Department.

(b) Each application for a permit shall be accompanied by information, maps, plans, specifications, designs, analyses, test reports and other data as may be required by the Department to determine compliance with this article.

(c) Information in the application shall be current, presented clearly and concisely and supported by appropriate references to technical and other written material available to the Department.

(d) Each application for a permit shall be prepared by, or under the supervision of, a Pennsylvania registered professional engineer. The design section of the application shall bear the seal of a Pennsylvania registered professional engineer. The soils, geology and groundwater sections of a permit application shall be completed by experts in the fields of soil science, soil engineering, geology and groundwater. The geology and groundwater sections of a permit application also shall be completed under the supervision of a registered professional geologist licensed in this Commonwealth.

§ 287.123. Right of entry.

(a) Each application shall contain a description of the documents upon which the applicant bases his legal right to enter and operate a residual waste processing or disposal facility within the proposed permit area. The application shall also state whether that right is the subject of pending litigation.

(b) The application shall provide one of the following for lands within the permit area:

(1) A copy of the written consent to the applicant by the current landowner to operate a residual waste processing or disposal facility.

(2) A copy of the document of conveyance that expressly grants or reserves the applicant the right to operate a residual waste processing or disposal facility and an abstract of title relating the documents to the current landowner.

(c) Each application shall include, upon a form prepared and furnished by the Department, the irrevocable written consent of the landowner to the Commonwealth and its authorized agents to enter the proposed permit area. The consent shall be applicable prior to the initiation of operations, for the duration of operations at the facility, and for up to 10 years after final closure for the purpose of inspection and monitoring, maintenance or abatement measures deemed necessary by the Department to carry out the purposes of the act and the environmental protection acts.

(d) The forms required by subsections (b) and (c) shall be recordable documents. Prior to the initiation of operations under the permit, the forms shall be recorded by the applicant at the office of the recorder of deeds in the county in which the proposed permit area is situated. This subsection does not apply to agricultural utilization permits under Chapter 291 (relating to land application of residual waste).

(e) Subsequent landowners shall be deemed to have constructive knowledge if the forms required by this section have been properly filed at the office of the recorder of deeds in the county in which the proposed solid waste activity is situated.

§ 287.124. Identification of interests.

(a) Each application for a residual waste processing or disposal permit shall contain the following information on a form provided by the Department:

(1) The name, addresses and telephone numbers of:

(i) The permit applicant.

(ii) Any contractor, including a contractor for gas or energy recovery from the proposed operation, if the contractor is a person other than the applicant.

(iii) Related parties to the applicant, including their relationship to the applicant.

(2) The names and addresses of the owners of record of surface and subsurface areas within, and contiguous to, any part of the proposed permit area.

(3) The names and addresses of the holders of record of any leasehold interest of surface and subsurface areas within, and contiguous to, any part of the proposed permit area.

(b) Each application shall contain a statement of whether the applicant is an individual, corporation, partnership, limited partnership, limited liability company, government agency, proprietorship, municipality, syndicate, joint venture or other association or entity. For applicants other than sole proprietorships, the application shall contain the following information, if applicable:

(1) The names and addresses of every officer, general and limited partner, director and other persons performing a function similar to a director of the applicant.

(2) For corporations, the principal shareholders.

(3) For corporations, the names, principal places of business and Internal Revenue Service tax identification numbers of United States parent corporations of the applicant, including ultimate parent corporations, and all United States subsidiary corporations of the applicant and the applicant's parent corporations.

(4) The names and addresses of other persons or entities having or exercising control over any aspect of the proposed facility that is regulated by the Department, including associates and agents.

(c) If the applicant, or an officer, principal shareholder, general or limited partner, limited liability company member or manager, or other related party to the applicant, has a beneficial interest in, or otherwise manages or controls another person or municipality engaged in the business of solid waste collection, transportation, storage, processing, treatment or disposal, the application shall contain the following information:

(1) The name, address and tax identification number or employer identification number of the corporation or other person or municipality.

(2) The nature of the relationship or participation with the corporation or other person or municipality.

(d) Each application shall list permits or licenses issued by the Department under the environmental protection acts to each person or municipality identified in subsection (b), and any other related parties to the applicant that are currently in effect or have been in effect in at least part of the previous 10 years. This list shall include the type of permit or license, number, location, issuance date, and if applicable, the expiration date.

(e) Each application shall identify the solid waste processing or disposal facilities in this Commonwealth which the applicant or a person or municipality identified in subsection (b), and other related party to the applicant currently owns or operates, or owned or operated in the previous 10 years. For each facility, the applicant shall identify the location, type of operation, and State or Federal permits under which they operate or have operated. Facilities which are no longer permitted or which were never under permit shall also be listed.

§ 287.125. Compliance information.

An application shall contain the following information for the 10-year period prior to the date on which the application is filed:

(1) A description of notices of violation, including the date, location, nature and disposition of the violation, that were sent by the Department to the applicant or a related party, concerning the act, the environmental protection acts, a regulation or order of the Department or a condition of a permit or license. In lieu of a description, the applicant may provide a copy of notices of violation.

(2) A description of administrative orders, civil penalty assessments and bond forfeiture actions by the Department, and civil penalty actions adjudicated by the EHB, against the applicant or related party concerning the act, the environmental protection acts, a regulation or order of the Department or of a condition of a permit or license. The description shall include the date, location, nature and disposition of the actions. In lieu of a description, the applicant may provide a copy of the orders, assessments and actions.

(3) A description of summary, misdemeanor or felony convictions, pleas of guilty or pleas of no contest that have been obtained in this Commonwealth against the applicant or a related party under the act and the environmental protection acts or other acts in this Commonwealth concerning the storage, collection, treatment, transportation, processing or disposal of solid waste. The description shall include the date, location, nature and disposition of the actions.

(4) A description of court proceedings concerning the act or the environmental protection acts that was not described under paragraph (3), in which the applicant or a related party has been party. The description shall include the date, location, nature and disposition of the proceedings.

(5) A description of consent orders, consent adjudications, consent decrees or settlement agreements in this Commonwealth entered by the applicant or a related party concerning the act, the environmental protection acts or an environmental protection ordinance, in which the Department, the EPA or a county health department was a party. The description shall include the date, location, nature and disposition of the action. In lieu of a description, the applicant may provide a copy of the order, adjudication, decree or agreement.

(6) For facilities and activities identified under § 287.124 (relating to identification of interests), a statement of whether the facility or activity was the subject of an administrative order, consent agreement, consent adjudication, consent order, settlement agreement, court order, civil penalty, bond forfeiture proceeding, criminal conviction, guilty or no-contest plea to a criminal charge, or permit or license suspension or revocation under the act or the environmental protection acts. If the facilities or activities were subject to one or more of these actions, the applicant shall state the date, location, nature and disposition of the violation. In lieu of a description, the applicant may provide a copy of the appropriate document. The applicant shall also state whether the Department has denied a permit application filed by the applicant or a related party, based on compliance status.

(7) When the owner or operator is a corporation, partnership or limited liability company, a list of each principal shareholder, partner or member that has also been principal shareholder, partner or member of another corporation, partnership or limited liability company which has committed violations of the act or the environmental protection acts. The list shall include the date, location, nature and disposition of the violation, and shall explain the relationships between the principal shareholder, partner or member and both of the following:

(i) The owner or operator.

(ii) The other corporation, partnership or limited liability company.

(8) A description of misdemeanor or felony convictions, pleas of guilty, and pleas of no contest, by the applicant or a related party for violations outside this Commonwealth of the environmental protection acts. The description shall include the date of the convictions or pleas, and the date, location and nature of the offense.

(9) A description of final administrative orders, court orders, court decrees, consent decrees or adjudications, consent orders, final civil penalty adjudications, final bond forfeiture actions or settlement agreements involving the applicant or a related party for violations outside this Commonwealth of the environmental protection acts. The description shall include the date of the action and the location and nature of the underlying violation. In lieu of a description, the applicant may provide a copy of the appropriate document.

§ 287.127. Environmental assessment.

(a) *Impacts.* Each environmental assessment in a permit application shall include a detailed analysis of the potential impact of the proposed facility on the environment, public health and public safety, including traffic, aesthetics, air quality, water quality, stream flow, fish and wildlife, plants, aquatic habitat, threatened or endangered species, water uses and land use. The applicant shall consider environmental features such as scenic rivers, recreational river corridors, local parks, State and Federal forests and parks, the Appalachian trail, historic and archaeological sites, National wildlife refuges, State natural areas, National landmarks, farmland, wetland, special protection watersheds designated under Chapter 93 (relating to water quality standards), airports, public water supplies and other features deemed appropriate by the Department or the applicant. The permit application shall also include all correspondence received by the applicant from any state or Federal agency contacted as part of the environmental assessment.

(b) *Harms.* The environmental assessment shall describe the known and potential environmental harms of the proposed project. The applicant shall provide the Department with a written mitigation plan which explains how the applicant plans to mitigate each known or potential environmental harm identified and which describes any known and potential environmental harms not mitigated. The Department will review the assessment and mitigation plans to determine whether there are additional harms and whether all known and potential environmental harms will be mitigated. In conducting its review, the Department will evaluate each mitigation measure and will collectively review mitigation measures to ensure that individually and collectively they adequately protect the environment and the public health, safety and welfare.

(c) *Noncaptive landfills, disposal impoundments and incinerators.* If the application is for the proposed operation of a noncaptive landfill, disposal impoundment or incinerator, the applicant shall demonstrate that the benefits of the project to the public clearly outweigh the known and potential environmental harms. In making this demonstration, the applicant shall consider harms and mitigation measures described in subsection (b). The applicant shall describe in detail the benefits relied upon. The benefits of the project shall consist of social and economic benefits that remain after taking into consideration the known and potential social and economic harms of the project and shall also consist of the environmental benefits of the project, if any.

(d) *Other facilities.* If the application is for the proposed operation of another type of facility and the applicant or the Department upon review determines that known or potential environmental harm remains despite the mitigation measures described in subsection (b), the applicant shall demonstrate that the benefits of the project to the public clearly outweigh the known and potential environmental harms. In making this demonstration, the applicant shall consider harms and mitigation measures described in subsection (b). The applicant shall describe in detail the benefits relied upon. The benefits of the project shall consist of social and economic benefits that remain after taking into consideration the known and potential social and economic harms of the project and shall also consist of the environmental benefits of the project, if any.

(e) *Identification of harms and benefits.* Known and potential harms and benefits of a proposed project may also be identified by the Department or any other person or municipality.

(f) *Evaluation.* After consultation with other appropriate agencies and potentially affected persons, the Depart-

ment will evaluate the environmental assessment in Phase I of permit review or otherwise prior to technical review.

(g) *Revision.* The Department may require submission of a revised environmental assessment if additional harms or potential harms are discovered during any phase of permit application review.

WASTE ANALYSIS

§ 287.131. Scope.

(a) Sections 287.132—287.135 apply to residual waste management facilities that apply to receive residual waste. Sections 287.132—287.134 do not apply to:

(1) Captive transfer facilities, except as otherwise required in writing by the Department.

(2) The disposal at permitted Class I or Class II residual waste landfills of residual waste from a person or municipality that generates a total quantity of 2,200 pounds or less of residual waste per generating location in each month, if the applicant demonstrates to the Department's satisfaction that the waste is not hazardous.

(3) The disposal at permitted Class I or Class II residual waste landfills of an individual type of residual waste from a person or municipality that generates a total or 2,200 pounds or less of that type of residual waste per generating location in each month, if approved by the Department in writing.

(b) The requirements of these sections are in addition to the application and operating requirements in this article.

§ 287.132. Chemical analysis of waste.

(a) *Application.*

(1) An application shall contain the following information for each waste on a form provided by the Department:

(i) The name and location of the generator of the waste.

(ii) A detailed analysis that fully characterizes the physical properties and chemical composition of the waste. This analysis shall include available information from material safety data sheets or similar sources that may help characterize the physical properties and chemical composition of the waste.

(iii) An evaluation of the ability of the waste and the constituents in the waste to leach into the environment.

(iv) A determination of whether the waste is hazardous under Chapter 261a (relating to identification and listing of hazardous waste) and 40 CFR Part 261 (relating to identification and listing of hazardous waste) to the extent incorporated in § 261a.1 (relating to incorporation by reference, purpose and scope).

(v) If the waste will be disposed of at a residual waste landfill or residual waste disposal impoundment, a demonstration that the waste meets the requirements for disposal at the facility without adversely affecting the effectiveness of the liner or leachate treatment system or attenuating soil at a Class III residual waste landfill.

(2) More than one type of waste from a single generator may be included on a single application, if the information required by this section is separately included for each type of waste.

(3) The analysis required by this subsection shall include a waste sampling plan, including quality assurance and quality control procedures. The plan shall ensure an accurate and representative sampling of the waste.

(4) The Department may, in writing, waive or modify the evaluation required by this subsection for waste to be received at permitted facilities if the conditions in subparagraph (i) are met and the conditions in subparagraph (ii) or (iii) are met:

(i) The applicant has submitted a description of the process by which the waste was generated, a physical description of the waste, and a certification that the waste is not hazardous.

(ii) The applicant has demonstrated to the Department's satisfaction that no additional analysis is necessary to determine if the waste can be received at the facility without adversely affecting the effectiveness of the liner or leachate treatment systems or attenuating soil at a Class III residual waste landfill and established emission and wastewater discharge limits.

(iii) The applicant has demonstrated to the Department's satisfaction that no additional analysis is necessary to determine if the waste can be received at the facility without adversely affecting the effectiveness of waste processing operations and established emission and wastewater discharge limits.

(b) *Waste generation.* Except as provided in subsection (e), an application shall also include a description of the waste generation process, including a description of the raw materials used in the process, the primary chemical reactions which occur during the process, the sequence of events which occur during the process, the points of waste generation in the process and the manner in which each of the wastes is managed subsequent to its generation. A schematic drawing of the process shall be included.

(c) *Methodologies.* The analytical methodologies used to meet the requirements of subsection (a) shall be those set forth in the most recent edition of the EPA's "*Test Methods for Evaluating Solid Waste*" (SW-846), "*Methods for Chemical Analysis of Water and Wastes*" (EPA 600/4-79-020), "*Standard Methods for Examination of Waste and Wastewater*" (prepared and published jointly by the American Public Health Association, American Waterworks Association, and Water Pollution Control Federation), or a comparable method subsequently approved by the EPA or the Department.

(d) *Quality control.* The person taking the samples and the laboratory performing the analysis required by subsection (a) shall employ the quality assurance/quality control procedures described in the EPA's "*Handbook for Analytical Quality Control in Water and Wastewater Laboratories*" (EPA 600/4-79-019) or "*Test Methods for Evaluating Solid Waste*" (SW-846). The laboratory's quality control procedures, as well as the documentation of the use of those procedures, shall be included in the application unless waived by the Department.

(e) *Generator information.* An applicant may submit information received from a person or municipality under § 287.54 (relating to chemical analysis of waste) to meet the corresponding requirements of this section.

§ 287.133. Source reduction strategy.

An application for the processing or disposal of residual waste shall contain a copy of the source reduction strategy required by § 287.53 (relating to source reduction strategy) for each residual waste to be received at the facility.

§ 287.134. Waste analysis plan.

(a) The application shall include a waste analysis plan for each type of waste proposed to be received at the permitted facility. The plan shall take into account the waste analysis required by § 287.132 (relating to chemical analysis of waste). At a minimum, the plan shall include:

(1) The parameters for which each residual waste will be analyzed and the rationale for the selection of these parameters. For the land application of residual waste under Chapter 291 (relating to land application of residual waste), the parameters shall include total nitrogen, organic nitrogen and ammonium.

(2) The test methods that will be used to test for these parameters. The test methods shall be the same as those used under § 287.132.

(3) An explanation of the sampling methods that will be used to obtain an accurate and representative sample of the waste to be analyzed, including quality assurance and quality control procedures.

(4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up-to-date. The rationale for the frequency shall also be explained.

(b) The application shall also include a plan for screening and managing incoming waste to ensure that the disposal or processing of the waste is consistent with the permit and this article. Except as otherwise required by the Department, the application shall include, at a minimum, a plan for checking each load of waste received at the facility for color, physical state and phases of waste.

(c) The application shall describe how rejected waste will be managed, including responsible persons or municipalities and the method by which an alternative processing or disposal facility will be selected.

§ 287.135. Transition period for radiation monitoring.

A person or municipality possessing a permit for a noncaptive residual waste disposal or processing facility which was issued by the Department prior to January 13, 2001, shall file with the Department an application for permit modification to bring the facility operation into compliance with the following requirements for radioactive material monitoring and detection that became effective on January 13, 2001, according to the following schedule, unless the Department imposes in writing an earlier date, in a specific situation for reasons of public health, safety or environmental protection:

(1) *Noncaptive residual waste landfill.* An application for a permit modification addressing the requirements of §§ 288.133(a)(14) and 288.139 (relating to map and grid requirements and radiation protection action plan) shall be filed by January 13, 2002.

(2) *Noncaptive residual waste disposal impoundment.* An application for a permit modification addressing the requirements of §§ 289.133(a)(13) and 289.138 (relating to map and grid requirements and radiation protection action plan) shall be filed by January 13, 2002.

(3) *Noncaptive residual waste transfer facility.* An application for a permit modification addressing the requirements of §§ 293.103(a)(13) and 293.111 (relating to maps and related information and radiation protection action plan) shall be filed by January 13, 2002.

(4) *Noncaptive residual waste composting facilities.* An application for a permit modification addressing the requirements of §§ 295.112(a)(20) and 295.120 (relating to maps and related information and radiation protection action plan) shall be filed by January 13, 2002.

(5) *Noncaptive residual waste incinerator or other processing facilities.* An application for a permit modification addressing the requirements of §§ 297.103(a)(20) and 297.113 (relating to maps and related information and radiation protection action plan) shall be filed by January 13, 2002.

FEES

§ 287.141. Permit application fee.

(a) Each application for a new permit and each application for permit modification under § 287.115 (relating to filing by permitted facilities) shall be accompanied by a nonrefundable fee in the form of a check payable to the "Commonwealth of Pennsylvania" for the following amount:

(1) Twenty-five thousand nine hundred dollars for residual waste landfills.

(2) Eight thousand five hundred dollars for residual waste disposal impoundments.

(3) Five thousand one hundred dollars for the agricultural utilization of residual waste.

(4) Five thousand one hundred dollars for the utilization of residual waste for land reclamation.

(5) Five thousand two hundred dollars for residual waste transfer facilities.

(6) For residual waste processing facilities other than transfer facilities:

(i) Eight thousand three hundred dollars for noncaptive residual waste incinerators.

(ii) Two thousand two hundred dollars for captive residual waste incinerators.

(iii) Five thousand two hundred dollars for other residual waste processing facilities.

(7) Eight thousand five hundred dollars for demonstration facilities.

(b) Each application for a permit modification under § 287.154 (relating to public notice and public hearings for permit modifications) shall be accompanied by a nonrefundable fee in the form of a check payable to the "Commonwealth of Pennsylvania" for the following amount:

(1) Six hundred dollars for the addition of types of waste not approved in the permit.

(2) Seven thousand eight hundred dollars for residual waste landfills.

(3) Six hundred dollars for the agricultural utilization of residual waste.

(4) One thousand nine hundred dollars for the utilization of residual waste for land reclamation.

(5) Four thousand six hundred dollars for residual waste disposal impoundments.

(6) For residual waste processing facilities:

(i) One thousand five hundred dollars for incinerators.

(ii) Seven hundred dollars for other residual waste processing facilities.

(7) Five thousand eight hundred dollars for demonstration facilities.

(c) An application for a minor permit modification, including a minor permit modification under § 287.222 (relating to permit modification), shall be accompanied by a nonrefundable fee in the form of a check payable to the "Commonweatlh of Pennsylvania" for $300.

(d) Each application for a permit reissuance under § 287.221 (relating to permit reissuance) shall be accompanied by a nonrefundable fee in the form of a check payable to the "Commonwealth of Pennsylvania" for $400.

(e) Each application for a permit renewal under § 287.223 (relating to permit renewal) shall be accompanied by a nonrefundable fee in the form of a check payable to the "Commonwealth of Pennsylvania" for $300.

(f) A fee is not required for closure plans submitted under § 287.113 (relating to permitting procedure for unpermitted processing or disposal facilities) or § 287.115.

PUBLIC NOTICE AND COMMENTS

§ 287.151. Public notice by applicant.

(a) An applicant for a new permit, major permit modification, permit renewal, permit reissuance and a person or municipality submitting a closure plan shall publish once a week for 3 consecutive weeks a notice in a newspaper of general circulation in the area where the facility or proposed facility is located. The notice shall meet the following requirements:

(1) The notice shall include a brief description of the location and proposed operation or closure of the facility, and shall indicate where copies of the application or closure plan will be filed. If groundwater degradation exists at closure or occurs after closure, the notice shall include a list of contaminants, abatement measures taken prior to closure, if applicable, proposed remediation measures and proposed remediation standards to be met. If the permittee proposes to utilize the site-specific standard, the notice shall include a 30-day public and municipal comment period during which the municipality can request to be involved in the development of the remediation and reuse plans for the site.

(2) The notice shall state that the host municipality and county may submit comments to the Department within 60 days of receipt of the application or closure plan, recommending conditions upon, revisions to and approval or disapproval of the permit or closure plan, with the specific reason described in the comments.

(3) The notice shall state that the Department will accept comments from the public on the permit application or closure plan and shall state the procedure for submission of comments.

(4) The notice shall state if the applicant proposes a design alternative under § 287.231 (relating to equivalency review procedure) and shall briefly describe the alternative design.

(5) If the application is for a new residual waste landfill, residual waste disposal impoundments, transfer facility or incinerator or for a major modification of a residual waste landfill or residual waste disposal impoundment permit, the notice shall be in the form of a display advertisement.

(b) An applicant for a new permit, permit reissuance, permit renewal or major permit modification, and a person or municipality submitting a closure plan, shall also notify by certified mail, owners and occupants of land continguous to the site or the proposed permit area of the nature and extent of the proposed facility or closure plan. If the applicant proposes design alternative under § 287.231, the notice shall so state and shall briefly describe the alternative design. The applicant shall submit proof of the notice in the form of a United States Postal Service postmarked signature card or other dated acknowledgment form of private letter carrier services.

(c) The Department may require the person or municipality to provide additional public notice if the Department determines that the proposed facility or closure plan is of significant interest to the public or may cause significant environmental impact.

(d) An applicant for a new permit, permit reissuance, permit renewal or major permit modification, and a person or municipality submitting a closure plan shall, immediately before the application or plan is filed with the Department, give written notice to each municipality in which the site or proposed permit area is located. If groundwater degradation exists at closure or occurs after closure, the notice shall include a list of contaminants, abatement measures taken prior to closure, if applicable, proposed remediation measures and proposed remediation standards to be met. If the permittee proposes to utilize the site-specific standard, the notice shall include a 30-day public and municipal comment period during which the municipality can request to be involved in the development of the remediation and reuse plans for the site. The notice shall state if the applicant proposes a design alternative under § 287.231, and shall briefly describe the alternative design. The applicant shall file with the Department a copy of the notice as part of the application or plan. The Department will not issue a permit for 60 days from the date of this notice unless each municipality to which this notice is sent submits a written statement to the Department expressly waiving the 60-day period.

(e) Proof of compliance with the applicable requirements of this section shall be submitted within 30 days of filing its permit application or closure plan with the Department.

(f) For new or expanded residual waste landfills or residual waste disposal impoundments for which the Phase I and Phase II applications are submitted separately, the notice required by this section shall be provided only for the Phase I application.

§ 287.152. Public notice by Department.

(a) The Department will publish a notice in the *Pennsylvania Bulletin* of the following:

(1) Receipt of an application for a new permit, permit reissuance, permit renewal or major permit modification. For new or expanded residual waste landfills or residual waste disposal impoundments for which the Phase I and Phase II applications are submitted separately, this notice shall be provided only for the Phase I application.

(2) Receipt of a closure plan and if groundwater degradation exists at closure or occurs after closure, the notice shall include a list of contaminants, abatement measures taken prior to closure, if applicable, proposed remediation measures and proposed remediation standards to be met. If the permittee proposes to utilize the site-specific standard, the notice shall include a 30-day public and municipal comment period during which the municipality can request to be involved in the development of the remediation and reuse plans for the site.

(3) Issuance or denial of an application for a new permit, permit reissuance, permit renewal or major permit modification.

(4) Justification for overriding county or host municipality recommendations regarding an application for a new permit, permit reissuance, permit renewal or major permit modification under section 504 of the act (35 P. S. § 6018.504).

(b) The Department will submit a copy of each application for a new permit, permit reissuance, permit renewal or major permit modification, and each closure plan to the host municipality and the appropriate county, county planning agency and county health department, if one exists. If groundwater degradation exists at closure or occurs after closure, the Department will include a copy of the applicant's list of contaminants, identification of abatement measures taken prior to closure, if applicable, proposed remediation measures and proposed remediation standards to be met. For new or expanded residual waste landfills or residual waste disposal impoundments for which the Phase I and Phase II applications are submitted separately, copies of the Phase I and Phase II applications will be submitted.

(c) The Department will provide written notice of each final action taken on an application for a new permit, permit reissuance, permit renewal or permit modification, and each closure plan to the host municipality and the appropriate county, county planning agency and county health department, if one exists.

§ 287.154. Public notice and public hearings for permit modifications.

(a) An application for a permit modification for a residual waste landfill or residual waste disposal impoundment shall be considered an application for a major permit modification under §§ 287.151—287.153 (relating to public notice by applicant; public notice by Department; and public comments) if the application involves one or more of the following:

(1) A change in site volume or waste capacity.

(2) A change in the average or maximum daily waste volume.

(3) A change in excavation contours or final contours, including final elevations and slopes, if the change results in increased disposal or storage capacity or impacts groundwater isolation distances or groundwater quality.

(4) A change in permitted acreage.

(5) A change in the approved groundwater monitoring plan, except for the addition or replacement of wells or parameters, or a change in the groundwater monitoring plan for a facility permitted prior to the effective date of these regulations to comply with the requirements of this article.

(6) A change in approved leachate collection and treatment method.

(7) A change in gas monitoring or management plan, or both, except where installation of additional wells or improvements to the collection systems are proposed.

(8) A change in the approved closure plan.

(9) The acceptance for disposal of types of waste not approved in the permit.

(10) A change in approved design under § 287.231 (relating to equivalency review procedure) if the design has not been previously approved through an equivalency review.

(11) The submission of an abatement plan.

(12) Change in ownership, unless the owner is the permittee, in which case permit reissuance is required under § 287.221 (relating to permit reissuance).

(13) Change in operator, unless the operator is the permittee, in which case permit reissuance is required under § 287.221.

(14) The disposal of waste in areas that have reached final permitted elevations.

(15) Submission of a radiation protection action plan.

(b) An application for a permit modification for a residual waste processing facility shall be considered an application for a major permit modification under §§ 287.151—287.153 if the application involves one or more of the following:

(1) A change in specifications or dimensions of waste storage or residue storage areas if the change results in an increase in processing or storage capacity.

(2) A change in the approved groundwater monitoring plan, except for the addition or replacement of wells or parameters.

(3) A change in an approved closure plan.

(4) The acceptance for processing of types of waste not approved in the permit.

(5) A change in residue disposal area, if applicable.

(6) A change in approved design under § 287.231 if the design has not been previously approved through an equivalency review.

(7) Change in ownership, unless the owner is the permittee, in which case permit reissuance is required under § 287.221.

(8) Change in operator, unless the operator is the permittee, in which case permit reissuance is required under § 287.221.

(9) Change in the maximum daily waste volume.

(10) Submission of a radiation protection action plan.

(c) An application for a permit modification for the land application of residual waste shall be considered an application for a major permit modification under §§ 287.151—287.153 if the application involves one or more of the following:

(1) A change in the approved maximum application rates.

(2) The acceptance of residual waste from generators not approved in the permit.

(3) A change in the approved groundwater monitoring plan, if groundwater monitoring is required, except for the addition of wells or parameters.

(4) Change in ownership, unless the owner is the permittee, in which case permit reissuance is required under § 287.221.

(5) Change in operator, unless the operator is the permittee, in which case permit reissuance is required under § 287.221.

(d) The Department may require public notice or public hearings for an application for permit modification not described in this section that the Department believes should be subject to public notice or public hearings.

(e) If the Department modifies a permit under section 503(e) of the act (35 P. S. § 6018.503(e)) without first

receiving a permit application, it will subsequently publish notice of the permit modification in the *Pennsylvania Bulletin*.

Subchapter D. PERMIT REVIEW PROCEDURES AND STANDARDS

PERMIT REVIEW

§ 287.201. Criteria for permit issuance or denial.

(a) A permit application will not be approved unless the applicant affirmatively demonstrates to the Department's satisfaction that the following conditions are met:

(1) The permit application is complete and accurate.

(2) Residual waste management operations can be feasibly accomplished pursuant to the application as required by the act, the environmental protection acts and this title.

(3) The requirements of the act, the environmental protection acts, this title and PA. CONST. Art. I, § 27 have been complied with.

(4) The mitigation plans required by § 287.127 (relating to environmental assessment) are implemented if required by the Department.

(5) Residual waste management operations under the permit will not cause air pollution, or water pollution, except that the Department may approve an application for permit modification to control or abate groundwater degradation under a new or modified groundwater collection or treatment facility.

(6) When the potential for mine subsidence exists, subsidence will not endanger or lessen the ability of the proposed facility to operate in a manner that is consistent with the act, the environmental protection acts and this title, and will not cause the proposed operation to endanger the environment or public health, safety or welfare.

(7) The compliance status of the applicant or a related party under section 503(c) and (d) of the act (35 P. S. § 6018.503(c) and (d)) does not require or allow permit denial.

(b) Failure by the Department to comply with a timetable in § 287.202 or § 287.203 (relating to completeness review; and review period) will not be construed or understood to constitute grounds for issuance of a permit.

§ 287.202. Receipt of application and completeness review.

(a) After receipt of a permit application, the Department will determine whether the application is administratively complete.

(b) For purposes of this section, "receipt of a permit application" does not occur for an application for a new facility or a permit modification that would result in an increased average or maximum daily waste volume, increased disposal capacity or expansion of the permit area, until the following requirements are met:

(1) The Department, applicant and municipal officials meet to discuss the permit application, the Department's permit application review process and the public involvement steps in that process and to hear and understand the concerns and questions of the municipal officials, as described in the Department's *Local Municipality Involvement Process Policy*, Document Number 254-2100-100. The Department may invite other persons from the local municipalities who have an interest in the application.

(2) An alternative project timeline is established for review of a permit application for a noncaptive residual waste landfill, disposal impoundment or incinerator through negotiation among the Department, applicant and representatives of the host county and host municipality. If the parties are unable to reach agreement, the Department will determine an appropriate timeline, taking into consideration the level of public interest and incorporating into the timeline sufficient opportunity for meaningful public participation. Public notice of a negotiated timeline will be made in the *Pennsylvania Bulletin* as part of the permit application receipt announcement required by § 287.152 (relating to public notice by the Department).

(c) For purposes of this section, an application is administratively complete if it contains necessary information, maps, fees and other documents, regardless of, whether the information, maps, fees and documents would be sufficient for issuance of the permit. If the Phase I and Phase II parts of the application for a landfill are submitted separately the application will not be considered to be administratively complete until both parts are determined to be administratively complete.

(d) If the application is not administratively complete, the Department will, within 60 days of receipt of the application, return it to the applicant, along with a written statement of the specific information, maps, fees and documents that are required to make the application administratively complete.

(e) The Department will deny the application if the applicant fails to provide the information, maps, fees and documents within 90 days of receipt of the notice in subsection (d).

(f) The following definitions apply in this section:

Approach routes—Routes from the nearest limited access (or major) highway used by vehicles traveling to and from the facility.

Local municipalities—Include the host municipality, the host county, municipalities adjacent to the host municipality or municipalities, municipalities located within 1 mile of the permitted or proposed area, other municipalities that demonstrate that they may be adversely impacted by the proposed project and municipalities located along the approach routes.

Municipal officials—Representatives of local municipalities with whom the Department will coordinate prepermit application and early permit application review.

§ 287.203. Review period.

(a) The Department will issue or deny permit applications under this article within the following periods of time:

(1) For captive residual waste landfills and disposal impoundments, within 12 months from the date of the Department's determination under § 287.202 (relating to receipt of application and completeness review) that the application is administratively complete.

(2) For noncaptive residual waste landfills, disposal impoundments and incinerators, within the period established in the alternative project timeline developed under § 287.202 (relating to receipt of application and completeness review).

(3) For other permits, within 6 months from the date of the Department's determination under § 287.202 that the application is administratively complete.

(b) The time periods set forth in subsection (a) do not include periods beginning with the date that the Depart-

ment in writing has requested the applicant to make substantive corrections or changes to the application and ending with the date that the applicant submits the corrections or changes to the Department's satisfaction.

GENERAL PERMIT RESTRICTIONS

§ 287.211. Term of permits.

(a) A permit issued under this article will be issued for a fixed term consistent with the approved operation and design plans of the facility, and not to exceed 10 years. An operator may apply for permit renewal prior to the expiration of the permit term under § 287.223 (relating to permit renewal).

(b) The Department may grant a longer fixed term if the following are met:

(1) The application is complete for the longer fixed term.

(2) The applicant shows that a specified longer term is reasonably needed to allow the applicant to obtain necessary financing for the facility, and this need is confirmed, in writing, by the applicant's source of financing.

(c) Residual waste may not be disposed, processed or beneficially used under a permit after the expiration of the permit term for disposal, processing or beneficial use. Expiration of the permit term does not limit the operator's responsibility for complying with closure and postclosure requirements and all other requirements under the act, the environmental protection acts, the regulations promulgated thereunder or the terms or conditions of its permit.

(d) The Department will, from time to time, but at intervals not to exceed 5 years, review a permit issued under this article. In its review, the Department will evaluate the permit to determine whether it reflects currently applicable operating requirements, as well as current technology and management practices. The Department may require modification, suspension or revocation of the permit when necessary to carry out the purposes of the act, the environmental protection acts and this title. The Department will require the operator to provide a summary of changes to the operations since the initial permit or the latest major permit modification was approved.

(e) If no residual waste is processed or disposed under a permit within 5 years of the date of issuance by the Department of a permit for the facility, the permit is void.

§ 287.212. Conditions of permits—general and right of entry.

Each permit issued by the Department will ensure and contain the following conditions:

(1) Except to the extent that the permit states otherwise, the permittee shall operate the facility as described in the approved application.

(2) The permittee shall allow authorized representatives of the Commonwealth, without advance notice or a search warrant, upon presentation of appropriate credentials, and without delay, to have access to areas in which the solid waste management facility will be, is being, or has been operated to ensure compliance with the act, regulations promulgated under the act, and a permit, license or order issued by the Department under the act.

(3) The permittee shall affect by solid waste management operations only those lands specifically approved in the permit and for which a bond has been filed with the Department under Subchapter E (relating to bonding and insurance requirements).

(4) The permittee shall notify the Department within the time stated in the permit and if no time is stated not later than 45 days, on a form prepared by the Department, after the transfer has occurred of a controlling interest in the owner or operator, if the transfer does not require a permit modification under § 287.154 (relating to public notice and public hearings for permit modifications) or a permit reissuance under § 287.221 (relating to permit reissuance). The notification shall contain the same information relating to the person who obtained the controlling interest in the owner or operator as is required of a permit applicant in a permit application under §§ 287.124 and 287.125 (relating to identification of interests; and compliance information). A "controlling interest" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting securities, by contract or otherwise.

PERMIT REISSUANCE, MODIFICATION AND RENEWAL

§ 287.221. Permit reissuance.

(a) A transfer, assignment or sale of rights granted under a permit may not be made without obtaining permit reissuance.

(b) An application for permit reissuance shall be made on forms provided by the Department and shall contain the following:

(1) A written statement that the person assumes, upon reissuance of the permit, all liability for operation, maintenance, pollution, closure, postclosure maintenance, final cover and other responsibilities under the act, the environmental protection acts, this title and the terms and conditions of the permit from the date of original issuance of the permit.

(2) A detailed explanation of the schedule and procedure for transferring control of the facility to the applicant.

(3) For applications for the reissuance of permits that were issued prior to July 4, 1992, a complete application for permit modification to correct deficiencies identified under § 287.115 (relating to filing by permitted facilities).

(4) One of the following:

(i) An entirely new application under this article.

(ii) A written statement expressly agreeing to abide by permit conditions, and assuming responsibility for violations which have occurred or may occur on the area previously affected. The statement shall include the following:

(A) The identity of the applicant as required in § 287.124 (relating to identification of interests) and the compliance information required in § 287.125 (relating to compliance information).

(B) For residual waste disposal permits, a property map showing the extent to which disposal has been accomplished under the existing permit.

(C) The name and address of the existing permittee.

(D) Appropriate bond and insurance in the amount specified by the Department under Subchapter E (relating to bonding and insurance requirements).

(E) Proof of public notice as required by § 287.151 (relating to public notice by applicant).

(F) Departmental approval of permit reissuance under this section will not be deemed to limit the original permittee's responsibility, liability, duty or obligation under law.

§ 287.222. Permit modification.

(a) A permittee shall file with the Department an application for permit modification, and obtain Departmental approval of the permit modification:

(1) Prior to making a change in the design or operational plans set forth in the application upon which the permit is issued.

(2) Prior to making a change that would affect the terms or conditions of the existing permit.

(3) When required by the Department under § 287.115 (relating to filing by permitted facilities).

(4) Prior to conducting solid waste processing or disposal activities that are not approved in this permit.

(5) If otherwise required by the Department.

(b) Application for permit modification shall be complete and contain the following information:

(1) The permittee's name, address and permit number.

(2) A description of the proposed modifications, including appropriate maps, plans and applications to demonstrate that the proposed modification complies with the act, the environmental protection acts and this title.

(c) The Department may issue, onsite, in writing, a conditional approval of a minor permit modification for the construction of liner systems or of erosion and sedimentation control devices if it is impracticable to comply with subsections (a) and (b) and if the modification will improve the permitted design. Approval is conditioned upon timely submission of the information and fee required in subsection (d).

(d) Within 5 working days of obtaining written onsite Department conditional approval of a minor modification under subsection (c), the permittee shall file with the Department documentation to modify its permit application in accordance with the conditional approval issued under subsection (c). The permit modification documentation shall be accompanied by the fee required in § 287.141(c) (relating to permit application fee).

§ 287.223. Permit renewal.

(a) A permittee that plans to dispose of or process residual waste after the expiration of the term set under § 287.211 (relating to term of permits) shall file a complete application for permit renewal on forms provided by the Department. The complete application for a processing facility or land application permit shall be filed at least 270 days before the expiration date of the permit term and for a disposal permit at least 1 year before the expiration date of the permit term.

(1) For a processing facility with a permit term that expires on or before October 10, 2001, the application for permit renewal shall be filed at least 180 days prior to the expiration date of the permit term.

(2) For a disposal facility with a permit term that expires on or before January 13, 2002, the application for permit renewal shall be filed at least 180 days prior to the expiration date of the permit term.

(b) An application for renewal of a residual waste disposal permit shall include a clear statement of the remaining permitted capacity of the facility, with documentation, in relation to the requested term of the permit renewal.

(c) A permit renewal, if approved by the Department, may only continue the term of the permit on its presently permitted acreage, including terms and conditions of the permit. An applicant that seeks to add permitted acreage or change the conditions of the permit shall also file an application for a permit modification.

(d) A permit renewal shall be for a term not to exceed the term of the original permit.

(e) A permit may not be renewed except under this article for facilities permitted after July 4, 1992.

OTHER PERMITTING PROVISIONS

§ 287.231. Equivalency review procedure.

(a) This section authorizes the Department, in approving a permit application under this article, to authorize, in writing, alternatives to the design requirements in this article. The alternative requirements may be authorized only if, and only to the extent that, specific sections in this article expressly state that alternatives may be authorized under this section.

(b) A person requesting an alternative under this section shall submit a request to the Department, in writing. The request shall:

(1) Identify the specific regulation for which an equivalency alternative is being sought.

(2) Demonstrate, through supporting technical documentation, justification and quality control procedures, that the requested alternative to the design requirements in a section of the regulations will, for the life of operations at the facility, achieve the performance standards set forth in that section, and will do so in a manner that is equivalent or superior to the design requirements in that section.

(c) An equivalency alternative will not be approved unless the application affirmatively demonstrates that the following conditions are met:

(1) The request is complete and accurate and the requirements of this section have been complied with.

(2) The proposed alternative will, for the life of operations at the facility, achieve the performance standards set forth in the section of regulations for which the alternative to the design requirements in that section is sought, and will do so in a manner that is equivalent or superior to the design requirements in that section.

(3) The proposed alternative will not cause pollution to the air, water or other natural resources of this Commonwealth, and will not harm or endanger public health, safety or welfare.

(d) In lieu of approving an equivalency alternative for the entire facility, the Department may approve an equivalency alternative for part of a site as provided in Subchapter G (relating to demonstration facilities).

(e) If an alternative design is approved through a major permit modification, the Department may approve the applicability of the alternative design to another applicant through a minor permit modification.

Subchapter E. BONDING AND INSURANCE REQUIREMENTS

TYPES OF BONDS

§ 287.321. Special terms and conditions for surety bonds.

(a) The Department will not accept the bond of a surety company that has failed or unduly delayed, as determined by the Department, in making payment on a forfeited surety bond.

(b) The Department will accept only the bond of a surety licensed or authorized to do business in this Commonwealth. In addition, for facilities permitted after January 13, 2001, and modifications issued after January 13, 2001, the Department will accept only the bond of a surety which is listed in circular 570 of the United States Department of Treasury. If a surety is removed from circular 570 or is no longer authorized to do business in this Commonwealth, the bond of the surety shall be replaced.

* * * * *

BOND AMOUNT

§ 287.332. Bond amount adjustments.

(a) The operator shall submit bond documents required by the Department to increase the total bond liability, and deposit additional bond amounts, upon demand by the Department according to § 287.333 (relating to failure to maintain adequate bond), or whenever additional bond amounts are required under this chapter, including §§ 287.327 and 287.331 (relating to surety/collateral combination bond; and bond amount determination).

(b) The Department will require an operator to deposit additional bond amounts determined under § 287.331 when the existing bond does not meet the requirements of this subchapter for any reason, including the following:

(1) Inflationary cost factors have resulted in a new cost estimate which exceeds the estimate used for the original bond amount determination.

(2) The permit is to be renewed, reissued, subject to a major permit modification or the bond on deposit is to be replaced.

(3) The Department otherwise determines that the existing total bond liability amount does not meet the purposes of the act, the environmental protection acts, this title, the permit or orders of the Department.

(c) Periodically after the date on which a bond was required to be submitted under this subchapter, the Department may determine the adequacy of bond amount requirements for residual waste processing or disposal facilities and, if necessary, require additional bond amounts.

(d) A request for reduction of the required bond shall be considered a request for bond release under § 287.341 (relating to release of bonds).

BOND RELEASE

§ 287.341. Release of bonds.

(a) An operator seeking a release of a bond previously submitted to the Department shall file a written request with the Department for release of all or part of the bond amount posted for the facility as part of a request for bond adjustment under § 287.332 (relating to bond amount adjustments), or after certification of final closure of the facility.

(b) The written request for bond release shall contain the following:

(1) The name of the operator and identification of the facility for which bond release is sought.

(2) The total amount of bond in effect for the facility and the amount for which release is sought.

(3) A detailed explanation why bond release is requested. The explanation shall include, but is not limited to, details relating to completion of a measure carried out in preparation for closure as defined in the closure plan or otherwise discernible upon inspection of the facility, closure of the facility, completion of postclosure measures, final closure certification abatement measures taken, and amendments to the permit or changes in the facts or assumptions made during the bond amount determination which demonstrate and would authorize a release of part or all of the bond deposited for the facility.

(4) A revised cost estimate for closure and postclosure care under § 287.331 (relating to bond amount determination).

(5) Other information that may be required by the Department.

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(g) The following apply with regard to bond release:

(1) The Department will not release a bond amount deposited for a facility if the release would reduce the total remaining amount of bond to an amount which would be insufficient for the Department to complete closure and postclosure care, including long-term maintenance of remediation measures, and to take measures that may be necessary to prevent adverse effects upon the environment or public health, safety or welfare under the act, the environmental protection acts, this title, the terms and conditions of the permits and orders of the Department.

(2) The release of a bond by the Department does not constitute a waiver or release of other liability provided in law, nor does it abridge or alter rights of action or remedies of a person or municipality now or hereafter existing in equity or under criminal and civil common law or statutory law. The release of a bond does not discharge an owner or operator from liability to restore the groundwater to remediation standards and to maintain groundwater quality, at a minimum, at those levels.

(3) The Department may grant bond releases immediately upon final closure, for facilities other than landfills, and disposal impoundments if it is clearly demonstrated that further monitoring, restoration or maintenance is not necessary to protect the public health, safety and welfare and the environment.

§ 287.342. Final closure certification.

(a) If the operator of a residual waste processing or disposal facility believes that all closure and postclosure requirements applicable to the facility have been met, the operator may file a request for final closure certification with the Department.

(b) The final closure certification request shall be accompanied by a nonrefundable administration fee in the form of a check payable to the "Commonwealth of Pennsylvania" for the following amount:

(1) Eight thousand eight hundred dollars for residual waste landfills and residual waste disposal impoundments.

(2) Six hundred dollars for all other residual waste processing or disposal facilities.

(c) The Department will not issue a final closure certification unless the operator demonstrates that:

(1) The applicable operating requirements of the act, the environmental protection acts, this title, the permit, the approved closure plan and orders of the Department have been complied with.

(2) One of the following remediation standards is met and maintained at the identified compliance points:

(i) The Statewide health standard at and beyond the property boundary.

(ii) The background standard at each well selected to determine the extent of contamination, as identified in § 288.256(c)(1) or § 289.266(c)(1) (relating to groundwater assessment plan).

(iii) The site-specific standard at and beyond the property boundary.

(3) No further remedial action, maintenance or other activity by the operator is necessary to continue compliance with the act, the environmental protection acts, this title, the permit, the approved closure plan and orders of the Department.

(4) The facility is not causing adverse effects on the environment, and is not causing a nuisance.

(d) For measuring compliance with secondary contaminants, under subsection (c)(2)(i) or (iii), the Department may approve a compliance point beyond the property boundary up to a water source.

* * * * *

(g) The final closure certification will not be construed as a guarantee of future performance nor will it constitute a waiver or release of bond liability or other liability existing in law or equity for adverse environmental effects or conditions of noncompliance at the time of the certification or at a future time, for which the operator shall remain expressly liable. The issuance of a final closure certification does not discharge an owner or operator from liability to restore the groundwater to remediation standards and to maintain groundwater quality, at a minimum, at those levels.

* * * * *

(i) If after the issuance of a certification of final closure the Department determines that the level of risk is increased beyond the acceptable range at a facility due to substantial changes in exposure conditions, such as in a change in land use from a nonresidential to a residential use, or new information is obtained about a substance associated with the facility which revises exposure assumptions beyond the acceptable range, additional remediation shall be required.

(j) For purposes of this section, "property boundary" is the delineation of the parcel of land as described in the deed existing on the date the facility ceases to accept waste.

PUBLIC LIABILITY INSURANCE REQUIREMENTS

§ 287.371. Insurance requirement.

(a) A person or municipality that has not submitted proof of insurance under the act may not dispose or process residual waste unless the person or municipality has submitted proof of a commercial policy of liability insurance covering third-party claims for property damage and bodily injury as provided by this section.

(b) An applicant for a permit to operate a residual waste processing or disposal facility, and every person or municipality that submits a closure plan under § 287.117 (relating to closure plan), shall submit to the Department proof of a commercial policy of liability insurance covering third party claims for property damage and bodily injury.

(1) The insurance policy shall be effective prior to the initiation of residual waste processing or disposal operations under the permit, or, for a closure plan submitted under § 287.117, prior to the initiation of the closure plan.

(2) The Department may accept as proof of insurance an insurance policy issued to a person that operates the facility who is not the permittee, in lieu of a policy issued to the permittee, if the insurance policy meets the requirements of this subchapter.

(c) Permit applications for new facilities shall certify that the operator has in force, or will, prior to initiation of operations, an insurance policy that complies with the requirements of this subchapter.

(d) A department or agency of the United States or the Commonwealth which owns or operates a residual waste processing or disposal facility may satisfy the requirements of this section by other means of financial assurance approved by the Department which satisfy the terms and conditions for insurance under this subchapter.

Subchapter F. CIVIL PENALTIES AND ENFORCEMENT

CIVIL PENALTIES

§ 287.413. Assessment of penalties; minimum penalties.

(a) This section sets forth minimum civil penalties for certain violations of the act and the regulations promulgated thereunder. The Department will assess a civil penalty under § 287.412 (relating to assessment of penalties; general) only if a civil penalty calculated under § 287.412 is greater in amount than the civil penalty calculated under this section.

(b) If a person or municipality operates a residual waste landfill or residual waste disposal impoundment on an area for which the person or municipality was not permitted to operate the facility, or in excess of final permitted elevations, the Department will assess a minimum civil penalty of $5,000 per 1/2 acre, or portion thereof. Intermediate acreages will be assessed at the next highest 1/2 acre. This subsection does not require the imposition of a civil penalty on persons or municipalities operating without a permit on July 4, 1992, if the persons or municipalities are in compliance with §§ 287.111 and 287.113 (relating to notice by impoundments and unpermitted processing or disposal facilities; and permitting procedure for unpermitted processing or disposal facilities).

(c) If a person or municipality applies residual waste to an area for which the person or municipality was not permitted to apply the residual waste, the Department will assess a minimum civil penalty of $500 per acre, or portion thereof.

(d) If a person or municipality fails to provide notification on a timely basis of an incident for which a reporting requirement exists in the act, the regulations promulgated thereunder, the terms or conditions of a permit, or order of the Department, the Department will assess a minimum civil penalty of $1,000.

(e) If a person or municipality generating residual waste fails to provide notice to the Department as required by § 287.52 (relating to biennial report), the Department will assess a minimum civil penalty of $300.

(f) If a person or municipality refuses, hinders, obstructs, delays or threatens an agent or employe of the Department in the course of performance of a duty under the act, including entry and inspection, the Department will assess a minimum civil penalty of $1,000.

(g) If a violation is included as a basis for an administrative order requiring cessation of solid waste management operations, or for any other abatement order, and if the violation has not been abated within the abatement period set in the order, a minimum civil penalty of at least $1,000 shall be assessed for each day during which the failure continues. This subsection does not limit the Department's authority to assess an appropriate civil penalty for violations that formed the basis for issuing an order, and that occurred prior to the issuance of the order or prior to a date for compliance in the order.

ENFORCEMENT

§ 287.421. Administrative inspections.

(a) The Department and its agents and employes will:

(1) Have access to, and require the production of, books and papers, documents and physical evidence pertinent to matters under investigation.

(2) Require a person or municipality engaged in the storage, transportation, processing, treatment or disposal of a residual waste to establish and maintain the records and make reports and furnish information as the Department may prescribe.

(3) Enter a building, property, premises or place where residual waste is generated, stored, processed, treated or disposed for the purpose of making an investigation or inspection necessary to ascertain the compliance or noncompliance by the person or municipality with the provisions of the act, the environmental acts and the regulations thereunder.

(4) In connection with an inspection or investigation, samples may be taken of solid, semisolid, liquid or contained gaseous material for analysis. If an analysis is made of the samples, a copy of the results of the analysis will be furnished within 5 business days after receiving the analysis from the laboratory to the person having apparent authority over the building, property, premises or place.

(b) The Department, its employes and agents may conduct routine inspections as follows:

(1) For residual waste landfills and residual waste disposal impoundments, at least 12 times per year.

(2) For residual waste incinerators and resource recovery facilities, at least 2 times per year.

(3) For transfer facilities, composting facilities and processing facilities, at least 4 times per year.

(4) For facilities for the agricultural utilization of residual waste, or for utilization of residual waste for land reclamation, at least 2 times per year.

(5) For facilities and beneficial use areas subject to permit-by-rule under § 287.102 (relating to permit-by-rule), general permit for beneficial use or processing, or both, under §§ 287.611, 287.612, 287.621—287.625, 287.631, 287.632, 287.641—287.644, 287.651 and 287.652 and beneficial use areas under §§ 287.661—287.665, at least once per year.

(c) The Department, its employes and agents may conduct additional inspections, including follow-up inspections, of residual waste processing, treatment, disposal, storage, collection and transportation facilities or to observe practices or conditions related to public health, safety, welfare or the environment, compliance with the act, the environmental protection acts, this title, the terms or conditions of a permit or a requirement of an order.

(d) The Department, its employes and agents may also conduct inspections of residual waste processing, treatment, disposal, storage, collection or transportation activities or facilities, if the person or municipality presents information to the Department which gives the Department reason to believe that:

(1) A person or municipality may have engaged in unlawful conduct under the act.

(2) A person or municipality may have violated an environmental protection act.

(3) A condition exists which may pose a threat to public health, safety, welfare or the environment.

(e) This section does not create a duty on the Department to conduct a minimum number of inspections per year at a facility.

(f) This section does not create defenses to Department actions.

Subchapter G. DEMONSTRATION FACILITIES

§ 287.501. Scope.

This subchapter applies to applications for residual waste processing or disposal facilities or parts of facilities, that are based on a new or unique technology for processing or disposing of residual waste. For purposes of this subchapter, a technology is new or unique if it has not previously been demonstrated in this Commonwealth or another comparable area. The Department may approve in writing, as a permit modification, the demonstration of new or unique technology for the processing or disposal of residual waste at permitted residual waste processing or disposal facilities provided the requirements of this subchapter are met.

§ 287.502. Relationship to other requirements.

(a) An operation that is approved under this subchapter is subject to this article.

(b) The Department may waive or modify any application and operating requirements in this article. The Department will not waive or modify subchapter A, §§ 287.124, 287.125, 287.151 and 287.128, Subchapter E or Subchapter F.

§ 287.504. Operating requirements.

In addition to applicable operating requirements set forth in this article, each person or municipality that operates a demonstration facility shall comply with the following:

(1) The facility may not be larger than the area needed to adequately test the new or unique technology.

(2) Waste may not be processed or disposed at the facility after 2 years from the initial processing or disposal of waste at the facility, unless a different period is stated in the permit. The permittee may request permit renewal under § 287.223 (relating to permit renewal).

(3) The operator shall submit periodic reports to the Department concerning the effectiveness and environmental effect of the facility.

(4) The permittee shall immediately cease operations and begin clean up and removal actions if the Department determines that the facility is causing or likely to cause harm to public health, safety, welfare or to the environment.

(5) Within 90 days from the expiration of the term of the permit, the permittee shall submit to the Department an analysis of the effectiveness of the technology, taking into consideration the factor set forth in § 287.503 (relating to application requirements).

(6) If Chapter 288, 289, 291, 293, 295, 297 or 299 is not clearly applicable to the facility, the permittee shall annually submit to the Department a nonrefundable permit administration fee of an amount set forth in the approved permit, but not more than $1,800, in the form of a check payable to the "Commonwealth of Pennsylvania." The fee will be based on the administrative costs of the Department under section 104 of the act (35 P. S. § 6018.104(8)).

Subchapter H. BENEFICIAL USE

GENERAL PERMITS FOR PROCESSING OR BENEFICIAL USE, OR BOTH, OF RESIDUAL WASTE OTHER THAN CERTAIN USES OF COAL ASH—AUTHORIZATION AND LIMITATIONS

§ 287.611. Authorization for general permit.

(a) In accordance with §§ 287.612, 287.621—287.625, 287.631, 287.632, 287.641—287.644, 287.651 and 287.652 and this section, the Department may issue general permits on a regional or Statewide basis for a category of processing when processing is necessary to prepare the waste for beneficial use, or for a category of beneficial use, or both, of residual waste when the following are met:

(1) The wastes included in the category are generated by the same or substantially similar operations and have the same or substantially similar physical character and chemical composition. If wastes are not the same or substantially similar and are blended for use, the blend shall be consistently reproduced with the same physical character and chemical composition.

(2) The wastes included in the category are proposed for the same or substantially similar beneficial use or processing operations.

(3) The activities in the category can be adequately regulated utilizing standardized conditions without harming or presenting a threat of harm to the health, safety or welfare of the people or environment of this Commonwealth. At a minimum, the use of the waste as an ingredient in an industrial process or as a substitute for a commercial product may not present a greater harm or threat of harm than the use of the product or ingredient which the waste is replacing.

(b) The Department may issue a general permit upon its own motion under § 287.625 (relating to Department initiated general permits) or upon an application from a person or municipality under §§ 287.621—287.624.

(c) The Department may modify, suspend, revoke or reissue general permits or coverage under a general permit under this subchapter as it deems necessary to prevent harm or threat of harm to the health, safety or welfare of the people or environment of this Commonwealth.

(d) The Department may issue a general permit for processing combinations of municipal and residual wastes when processing is necessary to prepare a waste for beneficial use, or for beneficial use of combinations of municipal and residual wastes, or both, under Article VIII (relating to municipal waste) or this article, whichever the Department determines appropriate. The Department will determine which article is appropriate based on factors including whether the facility is captive or noncaptive, and the proportion of municipal and residual waste. The requirements in this subchapter that apply to residual waste also apply to municipal waste when mixed with residual waste. A general permit for processing or beneficial use of combinations of sewage sludge and residual waste will be issued only under Chapter 271, Subchapter I.

(e) The Department will not issue a general permit for the following:

(1) A residual waste disposal impoundment.

(2) A residual waste landfill, a valley fill or other fill.

(3) The use of residual waste to fill open pits from coal or noncoal mining except for coal ash mixed with residual waste when the use does not present a safety hazard, will improve the overall quality of the area, is limited to the filling to natural contours of the land and does not present a threat to public health or the environment.

(4) The use of residual waste solely to level an area or bring the area to grade unless construction activity is completed on the area promptly after placement of the waste. A general permit may be issued for the beneficial use of waste as a construction material.

(5) The placement of waste oil or asbestos-containing waste on roads in this Commonwealth.

(6) Surface land disposal activities.

(7) The use of residual waste for construction or operations at a disposal facility.

(f) The Department may issue a general permit on a regional or Statewide basis for a category of processing when processing is necessary to prepare a residual waste for beneficial use, or for a category of beneficial use, or both, for coal ash mixed with other residual waste.

(g) The Department may issue a general permit on a regional or Statewide basis for the use, as construction material, of soil and other materials that do not meet the clean fill criteria.

§ 287.621. Application for general permit.

(a) A person or municipality may apply to the Department for the issuance of a general permit for a category of beneficial use of residual waste or for a category of processing of residual waste, where processing is necessary to prepare the waste for beneficial use.

(b) An application for the issuance of a general permit shall be submitted on a form prepared by the Department and shall contain the following:

(1) A description of the type of residual waste to be covered by the general permit, including physical and chemical characteristics of the waste. The chemical description shall contain an analysis meeting the requirements of § 287.132 (relating to chemical analysis of waste) for a sufficient number of samples of residual waste in the waste type to accurately represent the range of physical and chemical characteristics of the waste type.

(2) A description of the proposed type of beneficial use or processing activity to be covered by the general permit.

(3) A detailed narrative and schematic diagram of the production or manufacturing process from which the waste to be covered by the general permit is generated.

(4) For beneficial use general permits, proposed concentration limits for contaminants in the waste which is to be beneficially used, and a rationale for those limits.

(5) For general permits that involve beneficial use of a processed or unprocessed waste, a detailed demonstration of the efficacy of the waste for the proposed beneficial use, which shall include:

(i) If the waste is to be used as a substitute for a commercial product, a demonstration that the waste is capable of performing the desired functions of the commercial product, and that the waste meets or exceeds all applicable ASTM, Department of Transportation or other applicable National, state, local or industry standards or specifications for the material for which the waste is being substituted.

(ii) If the waste is to be used as a raw material for a product with commercial value, a demonstration that the waste will contribute significant properties or materials to the end product, and that the waste meets or exceeds all applicable ASTM, Department of Transportation or other applicable National, state, local or industry standards or specifications for the material for which the waste is being substituted.

(iii) If the waste is to be used in general roadway application or highway construction, a demonstration that approval has been granted by the Department of Transportation Product Evaluation Board, if applicable, for the use of the waste for the intended application.

(iv) If the waste is to be used as a construction material, soil substitute, soil additive or antiskid material, or is to be otherwise placed directly onto the land, an evaluation of the potential for adverse public health and environmental impacts from the proposed use of the residual waste. The evaluation shall identify the particular constituents of the waste which present the potential for adverse public health and environmental impacts, and the potential pathways of human exposure to those constituents, including exposure through groundwater, surface water, air and the food chain. The Department may waive or modify this requirement in writing.

(v) If the waste is to be used without reclamation as a construction material, soil additive, soil substitute or antiskid material or is to be otherwise placed directly onto the land, a demonstration that the residual waste to be beneficially used meets, at a minimum, the requirements of § 288.623(a) (relating to minimum requirements for acceptable waste). The Department may waive the requirements of § 288.623(a) that relate to secondary MCLs for this demonstration. The Department may waive or modify this provision for the use of oil and gas brines for road stabilization.

(vi) If the waste is to be used as a construction material, a description of the construction activities and detailed timelines for the prompt completion of the construction activities.

(6) If residual wastes are blended for use, a demonstration that each waste results in a beneficial contribution to the use of the mixed waste and that the consistency of the blend will be maintained. The applicant shall specify the quantities and proportions of all materials included in the blended waste and the mixture shall meet appropriate standards for use.

* * * * *

§ 287.632. Waiver and modification requirements.

(a) An operation that is approved under this subchapter is subject to this article.

(b) The Department may waive or modify any application and operating requirements in this article, except the Department will not waive § 287.123 (relating to right of entry) and will not waive or modify Subchapter A, §§ 287.124, 287.125 and 287.128, Subchapter E in accordance with Section 287.621(d) or Subchapter F.

BENEFICIAL USE OF COAL ASH

§ 287.661. Use of coal ash as structural fill.

* * * * *

(e) Coal ash used as a structural fill will not be considered a beneficial use unless the following requirements are met:

(1) The person or municipality has provided to the Department the information required by subsection (b) at least 60 days before using coal ash as a structural fill.

(2) The pH of the coal ash shall be in the range of 6.0 to 9.0, unless otherwise approved by the Department.

(3) The slope of a structural fill may not be greater than 2.5 horizontal to 1.0 vertical. The Department may approve a greater slope based on a demonstration of structural stability.

(4) Coal ash shall be spread uniformly and compacted in layers not exceeding 2 feet in thickness.

(5) Surface runoff form the fill area shall be minimized during filling and construction activity. Collection of surface runoff shall be managed in accordance with The Clean Streams Law and the regulations promulgated thereunder.

(6) Surface water shall be diverted away from the disturbed area during filling and construction activity.

(7) Coal ash shall be covered with 12 inches of soil, unless infiltration is prevented by other cover material.

(8) Coal ash may not be placed in contact with the seasonal high water table.

(9) Coal ash may not be placed within 8 feet of the regional groundwater table.

(10) Coal ash may not be used as a structural fill in a way that causes water pollution.

(f) Structural fills may not be located:

(1) Within 100 feet of an intermittent or perennial stream, unless the structural fill is otherwise protected by a properly engineered diversion or structure that is permitted by the Department under the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27).

(2) Within 300 feet of a water source unless the operator obtains a waiver from the water source's owner, allowing for another distance.

(3) Within 25 feet of a bedrock outcrop, unless the outcrop is properly treated to minimize infiltration into fractured zones.

(4) Within 100 feet of a sinkhole or area draining into a sinkhole.

(5) Within a 100-year floodplain of a water of this Commonwealth, unless a properly engineered dike, levee or other structure that can protect the structural fill from a 100-year flood is permitted by the Department in a manner that is consistent with the Flood Plain Management Act (32 P. S. §§ 679.101—679.601), the Storm Water

Management Act (32 P. S. §§ 680.1—680.17) and the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27).

(6) In or within 100 feet of a wetland.

§ 287.662. Use of coal ash as a soil substitute or soil additive.

* * * * *

(d) Coal ash used as a soil substitute or soil additive may not be considered a beneficial use unless the following requirements are met:

(1) The person or municipality has provided to the Department the information required by subsection (b) at least 60 days before using coal ash as a soil substitute or soil additive.

(2) The pH of the coal ash and the pH of the soil shall be in the range of 6.5 to 8.0 when mixed together in the manner required by the project, as shown by field and laboratory testing. Lime addition may be used to raise pH.

(3) Surface runoff from the project area shall be controlled during the project. Collection of surface runoff shall be controlled in accordance with The Clean Streams Law and the regulations promulgated thereunder.

(4) Diversion ditches, terraces and other runoff control structures shall be utilized to control erosion on the disturbed area of the project.

(5) The person or municipality conducting the activity shall have a Department-approved erosion and sedimentation control plan under Chapter 102 (relating to erosion control).

(6) Coal ash may not be placed in contact with the seasonal high water table.

(7) Coal ash may not be placed within 8 feet of the regional groundwater table.

(8) Coal ash may not be used in a way that causes water pollution.

(9) Coal ash shall be incorporated into the soil within 48 hours of application, unless otherwise approved by the Department. The coal ash shall be incorporated into the top 1-foot layer of surface soil. If 1 foot of surface soil is not present, coal ash may be combined with the surface soil that is present until the layer of combined surface soil and coal ash is 1 foot. The coal ash required for the beneficial use is limited to the amount necessary to enhance soil properties or plant growth.

(10) Coal ash shall be applied at a rate per acre that will protect public health, public safety and the environment.

(11) Coal ash may not be applied to soil being used for agriculture where the soil pH is less than 5.5.

(12) Coal ash may not be applied if resultant chemicals or physical soil conditions would be detrimental to biota.

(e) Coal ash may not be used as a soil substitute or soil additive:

(1) Within 100 feet of an intermittent or perennial stream, or a wetland other than an exceptional value wetland.

(2) Within 300 feet of a water source unless the operator obtains a waiver from the water source's owner, allowing for another distance.

(3) Within 100 feet of a sinkhole or area draining into a sinkhole.

(4) Within 300 feet measured horizontally from an occupied dwelling, unless the current owner thereof has provided a written waiver consenting to the activities closer than 300 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the current owner.

(5) In or within 300 feet of an exceptional value wetland.

CHAPTER 288. RESIDUAL WASTE LANDFILLS

Subchapter B. APPLICATION REQUIREMENTS

PHASE I APPLICATION REQUIREMENTS—GENERAL

§ 288.111. Basic requirements.

The Phase I application shall comply with the following:

(1) Sections 288.112, 288.113 and 288.121—288.129 (relating to facility plan; maps and related information; and Phase I application requirements—site analysis).

(2) Chapter 287, Subchapter C (relating to general requirements for permits and permit applications).

§ 288.112. Facility plan.

An application to operate a residual waste landfill shall contain conceptual drawings and a narrative describing the following:

(1) The general operational concept for the proposed facility, including the origin, composition and weight or volume of solid waste that is proposed to be disposed of at the facility, the type of liner system, the proposed capacity of the facility, the expected life of the facility and the size, sequence and timing of solid waste disposal operations at the facility.

(2) A detailed description of the volume of soil needed to construct and operate the facility and the method by which the soil will be delivered. The description will include the number of trucks, the access roads they will use, delivery times and any other information relevant to assessing the impacts of the operation.

§ 288.113. Maps and related information.

(a) An application shall contain a topographic map, on a scale of 1 inch equals no more than 200 feet with 10-foot maximum contour intervals. The Department may, in writing, approve the use of a different horizontal scale. The application shall include the map and necessary narrative descriptions, which show the following:

* * * * *

(b) An application shall contain a topographic map showing the location and name of public water sources within 3 miles downstream or downgradient from the proposed facility, and the boundary of the proposed permit area. The map shall be on a scale of 1 inch equals no more than 2,000 feet with 20-foot contour intervals, including necessary narrative descriptions.

PHASE I APPLICATION REQUIREMENTS—SITE ANALYSIS

§ 288.121. Description of geology, soils and hydrology; general requirements.

In preparing the soils, geology and hydrology descriptions required by this section and §§ 288.122—288.127 the applicant shall include information about the proposed permit area and the adjacent area. Plans and cross sections submitted to comply with this section and §§ 288.122—-288.127 shall be on a scale satisfactory to

the Department. The map shall be on a scale of 1 inch equals no more than 200 feet, with contour intervals at a maximum of 10 feet. Maps and cross sections submitted for a particular application shall be of the same or easily compared scales.

§ 288.122. Geology and groundwater description.

(a) An application shall contain a description of the geology and groundwater in the proposed permit area and adjacent area down to and including the lowest aquifer that may be affected by the facility, including the following:

* * * * *

(8) Well head protection areas in accordance with § 109.1 (relating to definitions) that may be impacted by the facility.

(9) A groundwater contour map based upon the highest groundwater level recorded monthly in each boring for the previous year. The Department may require more frequent measurements after significant precipitation events.

(b) A boring or coring not cased and capped and not to be used for groundwater monitoring shall be grouted shut or otherwise sealed in a manner approved by the Department.

§ 288.123. Groundwater quality description.

(a) An application shall contain a description of the chemical characteristics of each aquifer in the proposed permit area and adjacent area, based on at least two quarters, one of which shall include the season of highest local groundwater levels. This description shall be based on quarterly sampling and analysis from each monitoring well for the following parameters:

(1) Ammonia-nitrogen, bicarbonate, calcium, chloride, chemical oxygen demand, fluoride, nitrate-nitrogen, pH, specific conductance, sulfate, total alkalinity, total dissolved solids, total organic carbon, turbidity, iron, manganese, potassium and sodium.

* * * * *

§ 288.124. Soil description.

(a) An application for a Class I or Class II landfill shall contain:

(1) The depth to the seasonal high water table within the proposed permit area and adjacent area to demonstrate that the seasonal high water table will not be in contact with the liner system.

(2) A description of the soils to be used for daily, intermediate and final cover, and facility construction, including chemical description, texture, laboratory particle size analyses and quantity. Cross sections of the borrow pits within the proposed permit area shall be included.

(b) An application for a Class III landfill shall contain:

(1) A description of the soils within the proposed permit area and adjacent area down to the bedrock, including for each soil horizon, depth, matrix color, texture, structure, consistency, degree of mottling, mottling colors and laboratory particle size analyses.

(2) The depth to the seasonal high water table within the proposed permit area and adjacent area to demonstrate that the seasonal high water table will not be in contact with the liner system.

(3) A description of the soils to be used for daily, intermediate and final cover, attenuating soil base and facility construction, including texture, chemical description, laboratory particle size analyses and quantity. Cross sections of the borrow pits within the proposed permit area shall be included.

(c) In preparing the description of soils and elevations, the applicant shall do the following:

(1) Base the description on a sufficient number of pits, excavations and samples to allow an accurate characterization of the soils in the proposed permit area and adjacent area and each onsite and offsite borrow area.

(2) Use the following soil classification systems:

(i) For daily, intermediate and final cover, and for attenuating soil, if applicable, the United States Department of Agriculture Soil Classification System.

(ii) For the liner system, site construction and other noncover uses, the Unified Soil Classification System.

(3) Conduct required laboratory particle size analysis according to ASTM D422 (Standard Method for Particle-Size Analysis of Soils) or another analytical method approved in writing by the Department prior to the analyses.

§ 288.127. Mineral deposits information.

(a) If the proposed permit area and adjacent area overlie existing workings of an underground mine, the applicant shall submit sufficient information to evaluate the potential for mine subsidence damage to the facility, including the following:

(1) Maps and plans showing previous mining operations underlying the proposed facility.

(2) An investigation, with supporting documentation, by a registered professional engineer with geotechnical expertise addressing the probability and potential impacts of future subsidence. The investigation shall address the potential for additional mining beneath the permit and adjacent area, the stability of the final underground workings, the maximum subsidence likely to occur in the future and the effect of that subsidence on the integrity of the facility, and any measures which have been or will be taken to stabilize the surface.

(b) If the proposed permit area and adjacent area overlies recoverable or mineable coals, the applicant shall demonstrate that the applicant owns the coal and shall warrant that the coal will not be mined as long as residual waste remains on the site, except for surface mining activities approved in the permit for purposes of facility construction.

§ 288.128. Notification of proximity to airport.

An applicant shall notify the Bureau of Aviation of the Pennsylvania Department of Transportation, the Federal Aviation Administration and the airport if a proposed landfill or expansion, that is planned to receive putrescible waste, is within 6 miles of an airport runway. The application shall include a copy of each notification and each response to each notification received by the applicant.

PHASE II APPLICATION REQUIREMENTS—GENERAL

§ 288.131. Basic requirements.

(a) The Phase II permit application shall comply with the following:

(1) This section and §§ 288.132—288.139, 288.141, 288.142, 288.151, 288.152, 288.161, 288.171, 288.181 and 288.182.

(2) Chapter 287, Subchapter E (relating to bonding and insurance requirements).

(b) Applications, plans, cross sections, modules and narratives shall demonstrate how the construction and operating requirements of Subchapter C (relating to operating requirements) will be implemented, and shall include quality control measures necessary to ensure proper implementation.

(c) The plans, designs, cross sections and maps required by this section and §§ 288.132—288.139, 288.141, 288.142, 288.151, 288.152, 288.161, 288.171, 288.181 and 288.182 shall be on a scale in which 1 inch equals no more than 200 feet with 10-foot maximum contour intervals.

§ 288.132. Operation plan.

An application shall contain a description of the residual waste landfill operations proposed during the life of the facility within the proposed permit area, including the following:

(1) A narrative describing the type and method of residual waste landfill procedures, procedures for inspection and monitoring of incoming waste, sequence of landfilling activity, type of landfilling activity, proposed engineering techniques and the major equipment to be used under § 288.215 (relating to equipment), using the maps and grids required by § 288.133 (relating to map and grid requirements) as a basis for the description.

(2) A narrative explaining the method and schedule for construction, operation, modification, use, maintenance and removal of the following components of the proposed facility, unless their retention is proposed for postclosure land use:

(i) Dams, embankments, ditches and other impoundments.

(ii) Borrow pits, soil storage and handling areas and structures.

(iii) Scales and weigh station, if required.

(iv) Water and air pollution control facilities.

(v) Erosion and sedimentation control facilities.

(vi) Equipment storage and maintenance buildings, and other buildings.

(vii) Access roads.

(3) A construction schedule and sequence of operations tied to the grid coordinate system required by § 288.211 (relating to signs and markers), a site preparation plan and a schedule for disposing of solid waste at the site, including the maximum daily weight or volume of waste that will be received at the facility.

(4) An explanation of how the applicant intends to comply with § 288.214 (relating to measurement of waste).

(5) A plan for assuring that solid waste received at the facility is consistent with the following:

(i) Section 288.201 (relating to basic limitations).

(ii) Section 288.423, § 288.523 or § 288.623 (relating to minimum requirements for acceptable waste; minimum requirements for acceptable waste; and minimum requirements for acceptable waste), whichever is applicable.

(6) The proposed operating hours of the proposed facility. The operating hours include those hours related to construction and other activities related to operation of the facility.

§ 288.133. Map and grid requirements.

(a) An application shall contain a topographic map of the proposed permit and adjacent areas showing the following:

(1) The boundaries of lands proposed to be affected over the estimated total life of the proposed operation and the sequence of landfilling and closure.

(2) A change in a component of the facility or a feature within the proposed permit area to be caused by the proposed operation.

(3) The buildings, utility corridors and facilities which will be used in the operation.

(4) The areas of land for which a bond will be posted under Chapter 287, Subchapter E (relating to bonding and insurance requirements).

(5) The solid waste storage, processing or unloading areas.

(6) The water diversion, collection, conveyance, erosion and sedimentation control, treatment, storage and discharge facilities to be used.

(7) The location and elevation of the permanent physical markers for the grid coordinate system under subsection (b).

(8) The gas management, collection and control facilities, if required.

(9) The boundaries of construction activities.

(10) The location of barriers, fences and similar structures required by § 288.212 (relating to access control).

(11) The location of each sedimentation pond, permanent water impoundment or similar facility.

(12) The location of access roads to the site, including slopes, grades and lengths of the roads.

(13) The location and identity of monitoring wells.

(14) For noncaptive residual waste landfills, a designated area for vehicles for use in the event of the detection of waste containing radioactive material. The designated area shall, by location or shielding, protect the environment, facility staff and public from radiation originating in the vehicle. The Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, describes various factors to consider in determining an appropriate designated area.

(b) The applicant shall also submit a grid coordinate system for the entire proposed permit area. The horizontal control system shall consist of a grid not to exceed 200-foot square sections unless the facility is larger than 250 acres and the Department approves, in writing, a grid that exceeds 200-foot square sections. A permanent benchmark for horizontal and vertical control shall be shown. The grid system shall be a state or universal grid system and shall be tied to the benchmark and the baseline.

§ 288.134. Plan for access roads.

The application shall contain designs, cross sections and specifications for access roads, including load limits, under § 288.213 (relating to access roads).

§ 288.136. Nuisance minimization and control plan.

(a) The application shall contain a plan in accordance with § 288.218 (relating to nuisance minimization and control) to minimize and control hazards or nuisances from vectors, odors, noise, dust, unsightliness and other nuisances not otherwise provided for in the permit application.

(b) The plan shall include the following:

(1) Provisions for the routine assessment and control of vector infestation.

(2) Methods to minimize and control nuisances from odors, dustfall and noise off the property boundary from the facility.

(3) For odors, the determination of normal and adverse weather conditions based on site-specific meteorological data. Prior to the installation of equipment and collection of meteorological data, a protocol for the installation and data collection shall be approved by the Department.

(c) The plan required in subsection (a) may include a contractual arrangement for services of an exterminator or an air quality, noise, dust control or other professional.

§ 288.138. Daily volume.

The application shall contain proposed average and maximum daily volumes for the facility, and a detailed justification for these volumes, based on §§ 287.126 and 287.127 (relating to requirements for environmental assessment; and environmental assessment).

§ 288.139. Radiation protection action plan.

(a) An application for a noncaptive residual waste landfill shall contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, recordkeeping and reporting.

(b) The action plan shall be prepared in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Processing and Disposal Facilities*," Document Number 250-3100-001, or in a manner at least as protective of the environment, facility staff and public health and safety and which meets all statutory and regulatory requirements.

(c) The action plan shall be incorporated into the landfill's approved waste analysis plan under § 287.134 (relating to waste analysis plan).

PHASE II APPLICATION REQUIREMENTS—COVER AND REVEGETATION

§ 288.141. Compaction and cover plan.

An application shall contain a plan for compaction and cover at the proposed facility under §§ 288.216 and 288.232—288.234 and shall include the following information:

(1) The procedures for placement and compaction of solid waste and the degree of compaction of solid waste.

(2) The number and thickness of lifts.

(3) The materials and procedures for application of daily, intermediate and final cover material, that meet the standards in §§ 288.232—288.234 (relating to daily cover; intermediate cover and slopes; and final cover and grading).

(4) The procedures to establish elevation and grade of final cover.

PHASE II APPLICATION REQUIREMENTS—WATER QUALITY PROTECTION AND MONITORING

§ 288.152. Water quality monitoring plan.

(a) An application shall contain a water quality monitoring plan showing how the operator intends to comply with §§ 288.251—288.258 (relating to water quality monitoring). The plan shall include the following:

(1) The number, location and design of proposed monitoring points.

(2) For new facilities, pre-operational data showing existing groundwater quality, as required by § 288.123 (relating to groundwater quality description), and a procedure to establish this groundwater quality. For existing facilities, adequate monitoring data as required by § 288.123 to characterize background groundwater quality and a procedure to establish this groundwater quality.

(b) The application shall contain a groundwater sampling and analysis plan. The plan shall include:

(1) Procedures and techniques designed to accurately measure groundwater quality upgradient, beneath and downgradient of the proposed waste disposal area.

(2) Department approved sampling and analytical methods that are specific to the proposed facility and that will accurately measure solid waste, solid waste constituents, leachate or constituents of decomposition in the groundwater.

(3) Procedures and techniques for sample collection, sample preservation and shipment, analytical procedures, chain of custody control and field and laboratory quality assurance and quality control.

(4) Procedures and techniques for evaluation of analytical results to determine if groundwater degradation has occurred.

(c) The Department may approve the use of an alternate groundwater monitoring system for facilities located in the anthracite coal region if the applicant demonstrates the following to the Department's satisfaction with a detailed hydrogeologic study:

(1) The nature and extent of underground coal mining beneath the proposed facility makes impracticable the installation of the groundwater monitoring system required by this subchapter.

(2) The proposed alternate system is capable of completely and accurately identifying adverse effects on groundwater from the proposed facility.

PHASE II APPLICATION REQUIREMENTS—CLOSURE PROVISIONS

§ 288.182. Closure plan.

(a) The application shall contain a plan describing the activities that are proposed to occur in preparation for closure and after closure to ensure compliance with this chapter.

(b) The closure plan shall include:

(1) A plan for the decontamination and removal of equipment, structures and related material from the facility.

(2) An estimate of the year in which final closure will occur, including an explanation of the basis for the estimate.

(3) A description of the steps necessary for closure if the facility closes prematurely.

(4) A narrative description, including a schedule, of measures that are proposed to be carried out in preparation for closure and after closure at the facility, including measures relating to the following:

(i) Water quality monitoring.

(ii) Gas control and monitoring.

(iii) Leachate collection and treatment.

(iv) Erosion and sedimentation control.

(v) Revegetation and regrading, including maintenance of the final cover.

(vi) Access control, including maintenance of access control.

(5) A description of the means by which funds will be made available to cover the cost of postclosure operations, which shall include an assessment of project postclosure maintenance costs, a description of how the necessary funds will be raised, a description of where the funds will be deposited, copies of relevant legal documents and a description of how the funds will be managed prior to closure.

(6) The name, address and telephone number at which the operator can be reached during the postclosure period.

PHASE II APPLICATION REQUIREMENTS—ADDITIONAL PROVISIONS FOR CERTAIN WASTES

§ 288.191. Plan for disposal of PCBs.

(a) An application for the disposal of electrical transformers that previously contained between 50 and 500 ppm of PCBs shall contain a narrative description and necessary plans and drawings to show how the applicant plans to comply with § 288.301 (relating to PCBs).

(b) For other PCB-containing wastes which are proposed to be disposed at a Class I or Class II residual waste landfill, the applicant shall provide the information the Department states in writing is necessary to protect public health, safety, welfare and the environment.

Subchapter C. OPERATING REQUIREMENTS

GENERAL PROVISIONS

§ 288.201. Basic limitations.

(a) Except as provided in subsection (b), a person or municipality may not own or operate a residual waste landfill unless the Department has first issued a permit to that person or municipality for the facility under this chapter.

(b) A person or municipality may conduct monitoring under § 288.123 (relating to groundwater quality description) without a permit from the Department if the Department has given written approval for the monitoring based on written plans that are consistent with this chapter.

(c) A person or municipality that operates a residual waste landfill shall comply with the following:

(1) The act, this article and other applicable regulations promulgated under the act.

(2) The plans and specifications in the permit, the terms and conditions of the permit, the environmental protection acts, this title and orders issued by the Department.

(d) A person or municipality may not allow residual waste to be disposed at the facility unless the Department has specifically approved the disposal of the waste at the facility, in the permit.

(e) A coal ash monofill shall be located in an area that has been previously mined and left unreclaimed unless the operator provides a detailed written explanation in the permit application why locating the facility in such an area is not feasible.

(f) All approved mitigation measures identified in the application shall be completed before a facility may accept waste unless otherwise authorized in writing by the Department for technical reasons.

(g) The following radioactive material controlled under specific or general license or order authorized by any Federal, state or other government agency may not be disposed at the facility, unless specifically exempted from disposal restriction by an applicable Pennsylvania or Federal statute or regulation:

(1) Naturally occurring and accelerator produced radioactive material.

(2) Byproduct material.

(3) Source material.

(4) Special nuclear material.

(5) Transuranic radioactive material.

(6) Low-level radioactive waste.

(h) The following radioactive material may not be disposed at the facility, unless approved in writing by the Department and the disposal does not endanger the environment, facility staff or public health and safety.

(1) Short-lived radioactive material from a patient having undergone a medical procedure.

(2) TENORM.

(3) Consumer products containing radioactive material.

(i) The limitations in subsections (g) and (h) do not apply to radioactive material as found in the undisturbed natural environment of this Commonwealth.

§ 288.202. Certification.

(a) The operator shall submit a certification by a Pennsylvania registered professional engineer on forms provided by the Department upon completion of each major construction activity identified in the permit for each phase or sequence of construction at the facility. Major construction activities include the following:

(1) Construction of the groundwater monitoring system.

(2) Construction of the subbase.

(3) Construction of secondary liner.

(4) Construction of the leachate detection zone.

(5) Construction of the primary liner.

(6) Construction of the protective cover and the collection system within the protection cover.

(7) Placement of attenuating soil at natural attenuation facilities.

(8) Construction of a leachate treatment facility.

(9) Construction of a sedimentation pond.

(10) Closure.

(11) Final closure.

(12) Construction of the landfill gas extraction system.

(b) The certification shall describe the construction activity and the phase or sequence of construction being certified, using drawings and plans, if appropriate. The certification shall include testing results to prove compliance with the approved quality assurance plan. The certification shall state that the actual construction was observed by the engineer or persons under his direct supervision, and that the supervision was carried out in a manner that is consistent with the approved permit.

(c) Upon completion of each construction activity described in subsection (a) other than construction of a leachate treatment facility, the operator shall notify the Department that the construction activity is ready for inspection. Waste may not be disposed in the area subject to the inspection until the Department has conducted an inspection and has transmitted its written approval to the permittee indicating that construction was done according to the permit. The Department may, as part of an approved quality assurance and control plan, authorize a Pennsylvania registered professional engineer who is on the site continuously during construction to certify completion of a construction activity and authorize continuation of the next phase of construction activity prior to written approval from the Department.

DAILY OPERATIONS

§ 288.211. Signs and markers.

(a) Permanent physical markers for the grid coordinate system and permit area markers shall be:

(1) Posted and maintained for the duration of the operations to which they pertain.

(2) Clearly visible, readable and uniform throughout the operation.

(3) Permanently fixed and made of a durable material.

(b) The perimeter of the site shall be clearly marked before the beginning of operations. The perimeter of a disposal area shall be clearly marked before the beginning of residual waste disposal within that area.

(c) The permanent physical markers for the grid coordinate system shall be installed at the locations in the permit, prior to the beginning of operations. The base line of the grid system shall be marked with two permanent monuments that show elevation.

(d) A person or municipality that operates a noncaptive residual waste landfill shall identify the facility for the duration of operations by posting and maintaining a sign which is clearly visible and can be easily seen and read at the junction of each access road and public road. The sign shall be constructed of a durable, weather-resistant material. The sign shall show the name, business address and telephone number of the person or municipality that operates the facility, the operating hours of the facility and the number of the current permit authorizing operation of the facility.

§ 288.212. Access control.

(a) The following conditions apply at all facilities except local captive facilities:

(1) A gate or other barrier shall be maintained at potential vehicular access points to block unauthorized access to the site when an attendant is not on duty.

(2) The operator shall maintain a fence or other suitable barrier around the site, including impoundments, lagoons, leachate collection and treatment systems and gas processing facilities, sufficient to prevent unauthorized access.

(3) Access to the site shall be limited to times when an attendant is on duty.

(b) At local captive facilities, the operator shall comply with subsection (a) unless the Department approves in the permit alternative means of protecting access to the site that afford an equivalent degree of protection.

§ 288.213. Access roads.

(a) An access road shall be designed, constructed and maintained to prevent erosion to the maximum extent possible and to prevent contributions of sediment to streams or runoff outside the site.

(b) Crossing of a perennial or intermittent stream or a wetland shall be made using bridges, culverts or similar structures. Bridges, culverts or other encroachments or water obstructions shall meet the requirements of Chapter 105 (relating to dam safety and waterway management).

(c) An access road shall have a drainage system that is compatible with the natural drainage system, structurally stable and which will pass safely the peak flow from a 25-year, 24-hour precipitation event. For roads that are used or in existence for more than 30 days, the drainage system shall include sloped or crowned road surfaces, cross drains or culverts, stabilized ditches, erosion resistant surfacing, sediment traps and other appropriate sediment control measures as required by § 288.242 (relating to soil erosion and sedimentation control).

(d) An access road shall be paved or surfaced with asphalt, gravel, cinders or other equivalent material approved by the Department in the permit. An access road shall be capable of withstanding the load limits projected by the applicant under § 288.134 (relating to plan for access roads). The maximum sustained grade of an access road may not exceed 12% unless otherwise approved by the Department for local captive facilities.

(e) Except for local captive facilities where the Department has set forth alternate requirements in the permit, and except for roads not leading to the disposal area, the landfill shall maintain a minimum cartway width of one of the following:

(1) Twenty-two feet for two-way traffic.

(2) Twelve feet for one-way traffic with pull-off intervals every 100 yards or a greater distance where there is a clear view of approaching vehicles.

(f) An access road negotiable by loaded collection vehicles shall be provided from the entrance gate of the facility to each unloading area. An access road shall also be provided to each treatment facility, impoundment and groundwater monitoring point. Other monitoring points shall be readily accessible.

(g) Disturbed areas adjacent to a road shall be vegetated or otherwise stabilized to prevent erosion.

(h) An access road shall be maintained to control dust and to prevent or control the tracking of mud on and off the site.

(i) An access road shall be designed, constructed and maintained to allow the orderly egress and ingress of vehicular traffic when the facility is in operation, including during inclement weather.

§ 288.214. Measurement and inspection of waste.

(a) For a noncaptive facility that has received, is receiving or will receive 30,000 or more cubic yards of solid waste in a calendar year, the following apply:

(1) Except as provided in paragraph (2), the operator shall weigh solid waste when it is received. The scale used to weigh solid waste shall conform to 3 Pa.C.S. Chapter 41 (relating to Consolidated Weights and Measures Act) and 70 Pa. Code Part I (relating to weighmaster). The operator of the scale shall be a licensed public weighmaster under 3 Pa.C.S. Chapter 41 and 70 Pa. Code Part I.

(2) The Department may approve, in the permit, an alternative method of accurately measuring waste when it is received.

(b) For other facilities, solid waste received or disposed of at the facility shall be accurately weighed or otherwise accurately measured.

(c) The operator shall inspect and monitor incoming waste to ensure that the disposal of waste is consistent with this article.

§ 288.215. Equipment.

(a) The operators shall maintain on the site equipment necessary for the operation of the facility in accordance with the permit. The equipment shall be maintained in an operable condition.

(b) If a breakdown of the operator's equipment occurs, the operator shall utilize standby equipment as necessary to comply with the act, the environmental protection acts, this subchapter and permit conditions.

§ 288.216. Unloading and compaction.

(a) Solid waste shall be spread and compacted in accordance with § 288.141 (relating to compaction and cover plan).

(b) The working face shall be kept to a size which can be easily compacted and covered daily, if daily cover is required, with available equipment.

(c) The following apply at each facility other than a local captive facility:

(1) An attendant or clearly marked signs shall direct vehicles to the unloading area.

(2) The operator shall ensure that collection vehicles unload waste promptly in unloading areas.

§ 288.217. Air resources protection.

(a) The operator shall implement fugitive air contaminant control measures and otherwise prevent and control air pollution in accordance with the Air Pollution Control Act (35 P. S. §§ 4001—4015), Article III (relating to air resources) and § 288.218 (relating to nuisance minimization and control). Minimization and control measures shall include the following:

(1) Ensuring that operation of the facility will not cause or contribute to an exceedance of an ambient air quality standard under § 131.3 (relating to ambient air quality standards).

(2) Ensuring that no open burning occurs at the facility.

(3) Minimizing the generation of fugitive dust emissions from the facility.

(b) The operator shall comply with the terms and conditions of an air quality plan approval and air quality operating permit issued to the facility under Chapter 127 (relating to construction, modification, reactivation and operation of sources).

§ 288.218. Nuisance minimization and control.

(a) *Vectors.* An operator may not cause or allow the attraction, harborage or breeding of vectors.

(b) *Odors.*

(1) An operator shall implement the plan approved under § 288.136 (relating to nuisance minimization and control plan) to minimize and control public nuisances from odors. If the Department determines during operation of the facility that the plan is inadequate to minimize or control public nuisances, the Department may modify the plan or require the operator to modify the plan and obtain Department approval.

(2) An operator shall perform regular, frequent and comprehensive site inspections to evaluate the effectiveness of cover, capping, gas collection and destruction, waste acceptance and all other waste management practices in reducing the potential for offsite odor creation.

(3) An operator shall promptly address and correct problems and deficiencies discovered in the course of inspections performed under paragraph (2).

(c) *Other conditions.* An operator shall implement the plan approved under § 288.136 (relating to nuisance minimization and control plan) to minimize and control other conditions that are harmful to the environment or public health, or which create safety hazards, odors, dust, noise, unsightliness and other public nuisances.

§ 288.221. Daily volume

(a) A person or municipality operating a residual waste landfill may not receive solid waste at the landfill in excess of the maximum or average daily volume approved in the permit.

(b) The average daily volume is a limit on the volume of solid waste that is permitted to be received at the facility, and shall be computed annually by averaging the total volume received over the year.

§ 288.222. Radiation monitoring and response for noncaptive landfills.

(a) An operator shall implement the action plan approved under § 288.139 (relating to radiation protection action plan).

(b) An operator shall monitor incoming waste in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, or in a manner at least as protective of the environment, the facility staff and the public health and safety. Monitoring shall meet the requirements of this section and the facility's approved radiation protection action plan.

(c) Radiation detector elements shall be as close as practical to the waste load and in an appropriate geometry to monitor the waste. The radiation monitoring system shall be set to alarm at a level no higher than 10 microroentgen per hour (uR/hr) above the average background at the facility when any of the radiation detector elements is exposed to a cesium-137 gamma radiation field. Radiation detector elements shall be shielded to maintain the average background below 10 uR/hr. If capable of energy discrimination, the radiation monitoring system shall be set to detect gamma rays of a 50 kiloelectron volt (keV) energy and higher.

(d) An operator shall have portable radiation monitors capable of determining the radiation dose rate and presence of contamination on a vehicle that has caused an alarm. Upon a confirmed exceedance of the alarm level in subsection (c), a radiological survey of the vehicle shall be performed.

(e) An operator shall notify the Department immediately and isolate the vehicle when radiation dose rates of 20 µSv/hr (2 mrem/hr) or greater are detected in the cab of a vehicle, 500 µSv/hr (50 mrem/hr) or greater are detected from any other surface, or contamination is detected on the outside of the vehicle.

(f) Monitoring equipment shall be calibrated at a frequency specified by the manufacturer, but not less than once a year.

(g) If radioactive material is detected, the vehicle containing the radioactive material may not leave the facility without written Department approval and an authorized United States Department of Transportation exemption form.

COVER AND REVEGETATION

§ 288.231. (Reserved).

§ 288.232. Daily cover.

(a) Except as provided in subsection (b), a uniform cover of the approved daily cover material shall be placed on exposed solid waste at the end of each working day, at the end of every 24 hours, or at the completion of every lift, whichever interval is less.

(b) The Department may waive the daily cover material requirements of this section in the permit if the operator demonstrates that the composition of solid waste disposed at the facility prevents vectors, odors, blowing litter and other nuisances, is noncombustible and allows loaded vehicles to successfully maneuver over it after placement without change in its properties and without regard to weather.

(c) The composition of the daily cover material shall meet the following performance standards. The daily cover shall:

(1) Prevent vectors, odors, blowing litter and other nuisances.

(2) Cover solid waste after it is placed without change in its properties and without regard to weather.

(3) Be capable of allowing loaded vehicles to successfully maneuver over it after placement.

(4) Be capable of controlling fires.

(5) Be consistent with the waste acceptance plan for the facility.

(d) A 5-day supply of cover material shall be maintained on the site.

§ 288.233. Intermediate cover and slopes.

(a) Except as provided in subsection (b), a uniform intermediate cover shall be placed within 7 days of waste disposal on the following:

(1) A partial lift for which the operator intends to place no additional waste for 6 months.

(2) A partial or completed lift that represents final permitted elevations for that part of the facility.

(b) The Department may waive the intermediate cover requirements of this section if the operator demonstrates that the composition of solid waste disposed at the facility prevents vectors, odors, blowing litter, erosion and other nuisances, is noncombustible, allows loaded vehicles to successfully maneuver over it after placement without change in its properties and without regard to weather, and is capable of supporting the germination and propagation of vegetative cover as required by §§ 288.236 and 288.237 (relating to revegetation; and standards for successful revegetation).

(c) The composition of the intermediate cover material shall meet the following performance standards. The intermediate cover shall:

(1) Prevent vectors, odors, blowing litter and other nuisances.

(2) Cover solid waste after it is placed without change in its properties and without regard to weather.

(3) Be capable of allowing loaded vehicles to successfully maneuver over it after placement.

(4) Be capable of controlling fires.

(5) Be consistent with the waste acceptance plan for the facility.

(6) Support the germination and progagation of vegetative cover as required by §§ 288.236 and 288.237 unless vegetative cover is not necessary to control infiltration of precipitation and erosion and sedimentation.

(7) Control infiltration of precipitation and erosion and sedimentation.

(d) Unless alternative design requirements to meet the performance standards in subsection (c) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), intermediate cover shall meet the following design requirements:

(1) If soil or soil-like material is used, the layer of cover soil shall be at least 12 inches in thickness.

(2) If soil or soil-like material is used, the layer of cover soil shall be uniformly graded.

(e) If intermediate cover requires revegetation, the revegetation shall be established within 30 days.

(f) Slopes constructed during daily landfilling and intermediate cover activities may not exceed 50%.

§ 288.234. Final cover and grading.

(a) Except as provided in subsection (b), the operator shall provide final cover in the following manner:

(1) A cap shall be placed and graded over the entire surface of each final lift. The cap may be no more permeable than 1.0×10^{-7} cm/sec. The following performance standards for the cap shall be met:

(i) The cap shall minimize the migration of precipitation into the landfill.

(ii) The cap shall be resistant to physical and chemical failure.

(iii) The cap shall cover all areas where waste is disposed.

(2) A drainage layer capable of transmitting flow and preventing erosion of the soil layer shall be placed over the cap.

(3) A uniform layer of material shall be placed over the drainage layer. The layer of material shall support vegetation and protect the cap.

(b) The Department may waive the cap and drainage layer requirements of subsection (a)(1) and (2) based on a

demonstration that it is not necessary to limit infiltration into the waste. The demonstration shall include the following:

(1) The leachate production without a cap will be equivalent to leachate production with a cap.

(2) Waiver of a cap will not cause or contribute to groundwater degradation as a result of leachate production.

(c) Unless alternative design requirements to meet the performance standards in subsection (a)(1) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the cap shall meet the design requirements set forth for caps in Appendix A, Table II (relating to liner design standards).

(d) The operator shall place final cover within 1 year after disposal in the final lift ceases or as soon thereafter as weather permits, unless the Department, in the permit, allows a later period based on a demonstration that a later period is necessary to protect the cap and drainage layer from differential settlement of waste at the facility. The Department will not allow a later period unless, at a minimum, delayed installation will not cause or allow violations of this article, the act or the environmental protection acts.

(e) The layer of material described in subsection (a)(3) shall meet the following performance standards. The layer shall:

(1) Prevent vectors, odors, blowing litter and other nuisances.

(2) Cover solid waste after it is placed without change in its properties and without regard to weather.

(3) Be capable of allowing loaded vehicles to successfully maneuver over it after placement.

(4) Be capable of controlling fires.

(5) Be capable of preventing frost damage to the cap.

(6) Be capable of supporting the germination and propagation of vegetative cover as required by §§ 288.236 and 288.237 (relating to revegetation; and standards for successful revegetation).

(7) Not crack excessively when dry.

(8) Be consistent with the waste acceptance plan.

(f) Unless alternative design requirements to meet the performance standards in subsection (e) are approved as part of the permit under § 287.231 (relating to equivalency review procedure) the layer of material described in subsection (a)(3) shall meet the following design requirements:

(1) The cover soil shall fall within the United States Department of Agriculture textural classes of sandy loam, loam, sandy clay loam, silty clay loam, loamy sand and silt loam as defined in the *Soil Survey Manual* published by the United States Department of Agriculture, Soil Conservation Service (available from the Department or the Northeast National Technical Center of the Soil Conservation Service, 160 E. 7th Street, Chester, Pennsylvania 19013-6092).

(2) At least 40% by weight of the cover soil shall be capable of passing through a 2 millimeter, No. 10 mesh sieve.

(3) The cover may not include rocks that are greater than 6 inches in diameter.

(4) The layer of cover soil shall be at least 2 feet in thickness.

(g) The grade of final slopes shall be designed, installed and maintained to accomplish the following:

(1) Ensure permanent stability.

(2) Control erosion due to rapid water velocity and other factors.

(3) Allow compaction, seeding and revegetation of cover material placed on the slopes.

(4) Ensure minimal infiltration and percolation of precipitation, surface water run-on and runoff into the disposal area.

(h) Unless the Department authorizes a different slope design in the permit based on a demonstration that the different design can meet the requirements of subsection (g), slopes shall be designed, installed and maintained as follows:

(1) The grade of the final surface of the facility may not be less than 3%.

(2) If the Department approves final grades of more than 15%:

(i) The operator shall construct a horizontal terrace at least 15 feet wide on the slope for every 25 feet maximum rise in elevations on the slope. The terrace width shall be measured as the horizontal distance between slope segments.

(ii) The gradient of the terrace shall be 5% into the landfill.

(iii) Drainage ditches shall be constructed on each horizontal terrace to convey flows.

(3) An operator may not leave final slopes that have a grade exceeding 33%, including slopes between benched terraces.

WATER QUALITY PROTECTION

§ 288.245. Water supply replacement.

(a) A person or municipality operating a residual waste landfill which adversely affects a water supply by degradation, pollution or other means shall restore the affected supply at no additional cost to the owner or replace the affected water supply with an alternate source that is of like quantity and quality to the original supply at no additional cost to the owner.

(b) A temporary water supply shall be provided as soon as practicable but not later than 48 hours after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(c) A permanent water supply shall be provided as soon as practicable but not later than 90 days after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(d) Permanent water supplies include development of a new well with distribution system, interconnection with a public water supply or extension of a private water

supply, but do not include provision of bottled water or a water tank supplied by a bulk water hauling system, which are temporary water supplies.

WATER QUALITY MONITORING

§ 288.252. Number, location and depth of monitoring points.

(a) The water quality monitoring system shall accurately characterize groundwater flow, groundwater chemistry and flow systems on the site and adjacent area. The system shall consist of the following:

(1) At least one monitoring well at a point hydraulically upgradient from the disposal area in the direction of increasing static head that is capable of providing representative data of groundwater not affected by the facility, except when the facility occupies the most upgradient position in the flow system. In that case, sufficient downgradient monitoring wells shall be placed to determine the extent of adverse effects on groundwater from the facility.

(2) At least three monitoring wells at points hydraulically downgradient in the direction of decreasing static head from the area in which solid waste has been or will be disposed. In addition to the downgradient wells, the Department may allow one or more springs for monitoring points if the springs are hydraulically downgradient from the area in which solid waste has been or will be disposed, if the springs are developed and protected in a manner approved by the Department and if the springs otherwise meet the requirements of this subchapter.

(3) A leachate detection system for the disposal area, when required for the facility.

(4) A leachate collection system for the disposal area, when required for the facility.

(5) Surface water monitoring points approved by the Department.

(b) The upgradient and downgradient monitoring wells shall be:

(1) Sufficient in number, location and depth to be representative of water quality.

(2) Located so as not to interfere with routine facility operations.

(3) Located within 200 feet of the permitted disposal area, except as necessary to comply with subsection (c), and located at the points of compliance.

(c) In addition to the requirements of subsection (b), upgradient monitoring wells shall be located so that they will not be affected by adverse effects on groundwater from the disposal area.

(d) In addition to the requirements of subsection (b), downgradient monitoring wells shall be located so that they will provide early detection of adverse effects on groundwater from the disposal area.

(e) Wells drilled under this section shall be drilled by drillers licensed under the Water Well Drillers License Act (32 P. S. §§ 645.1—645.13).

(f) The well materials shall be decontaminated prior to installation.

§ 288.253. Standards for wells and casing of wells.

(a) A monitoring well shall be cased as follows:

(1) The casing shall maintain the integrity of the monitoring well borehole and shall be constructed of material that will not react with the groundwater being monitored.

(2) The minimum casing diameter shall be 4 inches unless otherwise approved by the Department in writing.

(3) The well shall be constructed with a screen that meets the following requirements:

(i) The screen shall be factory-made.

(ii) The screen may not react with the groundwater being monitored.

(iii) The screen shall maximize open area to minimize entrance velocities and allow rapid sample recovery.

(4) The well shall be filter-packed with chemically inert clean quartz sand, silica or glass beads. The material shall be well-rounded and dimensionally stable.

(5) The casing shall be clearly visible and protrude at least 1 foot aboveground, unless the Department has approved flush mount wells.

(6) The annular space above the sampling depth shall be sealed to prevent contamination of samples and the groundwater.

(7) The casing shall be designed and constructed to prevent cross contamination between surface water and groundwater.

(8) Alternative casing designs for wells in stable formations may be approved by the Department.

(b) Monitoring well casings shall be enclosed in a protective casing that shall:

(1) Be of sufficient strength to protect the well from damage by heavy equipment and vandalism.

(2) Be installed for at least the upper 10 feet of the monitoring well, as measured from the well cap, with a maximum stick up of 3 feet, unless otherwise approved by the Department in writing.

(3) Be grouted and placed with a concrete collar at least 3 feet deep to hold it firmly in position.

(4) Be numbered for identification with a label capable of withstanding field conditions and painted in a highly visible color.

(5) Protrude above the monitoring well casing.

(6) Have a locked cap.

(7) Be made of steel or other material of equivalent strength.

§ 288.254. Sampling and analysis.

(a) A person or municipality operating a residual waste landfill shall conduct sampling and analysis from each monitoring point for the following parameters at the following frequencies:

(1) Quarterly, for ammonia-nitrogen, bicarbonate, calcium, chloride, fluoride, chemical oxygen demand, nitrate-nitrogen, pH, specific conductance, sulfate, total alkalinity, total organic carbon, total dissolved solids, turbidity, iron, manganese, magnesium, potassium and sodium.

(2) Quarterly, for groundwater elevations in monitoring wells recorded as a distance from the elevation at the well head referenced to mean sea level based on United States Geological Survey datum.

(3) Annually, for total and dissolved concentrations of each of the following: arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver and zinc.

(4) Annually, for the following volatile organic compounds: tetrachloroethene, trichloroethene, 1,1,1-trichloroethane, 1,2-dibromoethane, 1,1-dichloroethene,

1,2-dichloroethene (cis and trans isomers), vinyl chloride, 1,1-dichloroethane, 1,2-dichloroethane, methylene chloride, toluene, ethylbenzene, benzene and xylene.

(5) Other constituents contained in the waste that may leach into the environment, as determined under § 287.132 (relating to chemical analysis of waste). For facilities with leachate collection and treatment, the quarterly analysis shall be adjusted to reflect parameters detected from leachate analysis under § 288.456 or § 288.556 (relating to leachate analysis and sludge handling; and leachate analysis and sludge handling).

(b) The Department may modify the requirements of this section, based on the waste analysis conducted under § 287.132 for residual waste monofills for parameters and monitoring frequencies that are not necessary to determine the actual or potential effect of the facility on surface or groundwater. This subsection does not apply to subsection (a)(1).

(c) For facilities permitted before July 4, 1992, the parameters described in this section shall be sampled and analyzed beginning October 5, 1992.

§ 288.256. Groundwater assessment plan.

(a) *Requirement.* A person or municipality operating a residual waste landfill shall prepare and submit to the Department a groundwater assessment plan within 60 days after one of the following occurs:

(1) Data obtained from monitoring by the Department or the operator indicates groundwater degradation at any monitoring point.

(2) Laboratory analysis of one or more pubic or private water supplies indicates groundwater degradation that could reasonably be attributed to the facility.

(b) *Exception.* The operator is not required to conduct an assessment under this section if one of the following applies:

(1) Within 10 working days after receipt of sample results indicating groundwater degradation, the operator resamples the affected wells and analysis from resampling shows, to the Department's satisfaction, that groundwater degradation has not occurred.

(2) Within 20 working days after receipt of sample results indicating groundwater degradation, the operator demonstrates that the degradation was caused entirely by earthmoving and other activities related to facility construction, or by seasonal variations.

(c) The groundwater assessment plan shall specify the manner in which the operator will determine the existence, quality, quantity, areal extent and depth of groundwater degradation and the rate and direction of migration of contaminants in the groundwater. A groundwater assessment plan shall be prepared by an expert in the field of hydrogeology. The plan shall contain the following information:

(1) The number, location, size, casing type and depth of wells, lysimeters, borings, pits, piezometers and other assessment structures or devices to be used. If the operator establishes compliance points as part of the assessment, the points shall be wells constructed in accordance with §§ 288.252 and 288.253 (relating to number location and depth of monitoring points; and standards for wells and casing of wells).

(2) The sampling and analytical methods for the parameters to be evaluated.

(3) The evaluation procedures, including the use of previously gathered groundwater quality information, to determine the concentration, rate and extent of groundwater degradation from the facility.

(4) An implementation schedule.

(5) Identification of the abatement standard that will be met.

(d) The groundwater assessment plan shall be implemented upon approval by the Department in accordance with the approved implementation schedule, and shall be completed in a reasonable time not to exceed 6 months, unless otherwise approved by the Department. If the Department determines that the proposed plan is inadequate, it may modify the plan and approve the plan as modified. The operator shall notify, in writing, each owner of a private or public water supply that is located within 1/2-mile downgradient of the disposal area that an assessment has been initiated.

(e) Within 45 days after the completion of the groundwater assessment plan, the operator shall submit a report containing the new data collected, analysis of the data and recommendations on the necessity for abatement.

(f) If the Department determines after review of the groundwater assessment report that implementation of an abatement plan is not required by § 288.257 (relating to abatement plan), the operator shall submit a permit modification application under § 287.222 (relating to permit modification) for necessary changes to the groundwater monitoring plan. The operator shall implement the modifications within 30 days of the Department's approval.

(g) This section does not prevent the Department from requiring, or the operator from conducting groundwater abatement or water supply replacement concurrently with or prior to implementation of the assessment.

§ 288.257. Abatement plan.

(a) The operator of a residual waste landfill shall prepare and submit to the Department an abatement plan whenever one of the following occurs:

(1) The groundwater assessment plan prepared and implemented under § 288.256 (relating to groundwater assessment plan) shows the presence of groundwater degradation for one or more contaminants at one or more monitoring points and the analysis under § 288.256(c) indicates that an abatement standard under subsection (c) will not be met.

(2) Monitoring by the Department or operator shows the presence of an abatement standard exceedance from one or more compliance points as indicated in subsection (c) even if a groundwater assessment plan has not been completed. The operator is not required to implement an abatement plan under this paragraph if the following apply:

(i) Within 10 days after receipt of sample results showing an exceedance of an abatement standard at a point of compliance described in subsection (c), the operator resamples the affected wells.

(ii) Analysis from resampling shows to the Department's satisfaction that an exceedance of an abatement standard has not occurred.

(b) An abatement plan shall be prepared by an expert hydrogeologist and submitted to the Department. The plan shall contain the following information:

(1) The specific methods or techniques to be used to abate groundwater degradation at the facility.

(2) The specific methods or techniques to be used to prevent further groundwater degradation from the facility.

(3) A schedule for implementation.

(c) If abatement is required in accordance with subsection (a), the operator shall demonstrate compliance with one or more of the following standards at the identified compliance points:

(1) For constituents for which Statewide health standards exist, the Statewide health standard for that constituent at and beyond 150 meters of the perimeter of the permitted disposal area or at and beyond the property boundary, whichever is closer.

(2) The background standard for constituents at and beyond 150 meters of the perimeter of the permitted disposal area or at and beyond the property boundary, whichever is closer.

(3) For constituents for which no primary MCLs under the Federal and State Safe Drinking Water Acts (42 U.S.C.A. §§ 300f—300j-18; and 35 P. S. §§ 721.1—721.17) exist, the risk-based standard at and beyond 150 meters of the perimeter of the permitted disposal area or at and beyond the property boundary, whichever is closer, if the following conditions are met:

(i) The risk assessment used to establish the standard assumes that human receptors exist at the property boundary.

(ii) The level is derived in a manner consistent with Department guidelines for assessing the health risks of environmental pollutants.

(iii) The level is based on scientifically valid studies conducted in accordance with good laboratory practice standards (40 CFR Part 792 (relating to good laboratory practice standards)) promulgated under the Toxic Substances Control Act (15 U.S.C.A. §§ 2601—2692) or other scientifically valid studies approved by the Department.

(iv) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level of 1×10^{-5} at the property boundary.

(d) For measuring compliance with secondary contaminants under subsection (c), paragraph (1) or (3), the Department may approve a compliance point beyond 150 meters on land owned by the owner of the disposal area.

(e) The abatement plan shall be completed and submitted to the Department for approval within 90 days of the time the obligation arises under this section unless the date is otherwise modified, in writing, by the Department.

(f) If the Department determines that the proposed plan is inadequate, the Department may modify the plan and approve the plan as modified or require the submission of an approvable modification.

(g) The abatement plan shall be implemented within 60 days of approval by the Department in accordance with the approved implementation schedule.

(h) If, after plan approval or implementation, the Department finds that the plan is incapable of achieving the groundwater protection contemplated in the approval, the Department may issue one or more of the following:

(1) An order requiring the operator to submit proposed modifications to the abatement plan.

(2) An order requiring the operator to implement the abatement plan as modified by the Department.

(3) An other order the Department deems necessary to aid in the enforcement of the act.

MINERALS AND GAS

§ 288.261. Mineral resources.

(a) The operator shall isolate coal seams, coal outcrops and coal refuse from combustible waste deposits to prevent the combustion of the waste and that prevents damage to the liner system.

(b) Mine openings within the site shall be sealed in a manner approved by the Department.

(c) The operator shall implement a plan for controlling potential for damage from subsidence that was submitted and approved under § 288.127 (relating to mineral deposits information).

§ 288.262. Gas control and monitoring.

(a) If the waste disposed at the facility generates, or is likely to generate gas, the operator shall establish and implement a gas control and monitoring program plan under § 288.161 (relating to gas monitoring and control plan).

(b) The operator shall control decomposition gases generated within the site to prevent danger to workers, structures and to occupants of adjacent property.

(c) Gas venting and monitoring systems shall be installed during construction at facilities.

(d) Gas monitoring shall be conducted in accordance with the approved plan. Gas monitoring shall be conducted quarterly by the operator during active operations and after closure until the Department determines in writing that gas monitoring is not necessary to ensure compliance with the act, the environmental protection acts, regulations promulgated thereunder and the terms and conditions of the permit.

(e) Combustible gas levels may not equal or exceed:

(1) Twenty-five percent of the lower explosive limit in a structure within the site.

(2) The lower explosive limit at the boundaries of the site.

(f) The operator shall conduct active forced ventilation of the facility, using vents located at least 3 feet above the landfill surface, if one of the following apply:

(1) Passive venting has caused or may cause violations of subsection (e).

(2) Induced positive gas flows will prevent or control offsite odors.

EMERGENCY PROCEDURES

§ 288.271. Hazard prevention.

A residual waste landfill shall be designed, constructed, maintained and operated to prevent and minimize the potential for fire, explosion or release of solid waste constituents to the air, water or soil of this Commonwealth that could threaten public health or safety, public welfare or the environment.

§ 288.272. Emergency equipment.

(a) Except as provided in subsection (b), the operator shall have available, in proper working condition, the following equipment at the immediate operating area of the facility:

(1) An internal communications or alarm system capable of providing immediate emergency instruction by voice or signal to facility personnel.

(2) A communications system capable of summoning emergency assistance from local police, fire departments, emergency medical services and from State and local emergency response agencies.

(3) Portable fire extinguishers, fire control equipment, spill control equipment, self contained breathing apparatus and decontamination equipment. For fire control equipment requiring water, the facility shall have a water supply of adequate quantity and pressure to supply the equipment.

(4) Portable gas explosimeters and gas monitoring equipment.

(b) The Department may waive or modify one or more of the requirements of subsection (a) in the permit if the operator demonstrates to the Department's satisfaction that the requirements are not necessary to protect health and safety, public welfare and the environment.

(c) Equipment and material required by this section shall be tested and maintained so that it is operable in time of emergency.

(d) Adequate space shall be maintained to allow the unobstructed movement of emergency personnel and equipment to operating areas of the facility.

RECORDKEEPING AND REPORTING

§ 288.281. Daily operational records.

(a) The operator of a facility shall make and maintain an operational record for each day that residual waste is received, processed or disposed, and each day that construction, monitoring or postclosure activity occurs. The operator of a captive residual waste facility may maintain a monthly operational record instead of a daily operational record for each month in which residual waste is received, processed or disposed, and each month that construction, monitoring or postclosure activity occurs. The monthly operational record shall contain the information required in subsection (b)(1)—(7).

(b) The operational record shall include the following:

(1) The type and weight or volume of the solid waste received.

(2) The particular grid location of the area currently being used for disposal of solid waste.

(3) A description of waste handling problems or emergency disposal activities.

(4) A record of deviations from the approved design or operational plans.

(5) A record of activities for which entries are needed to comply with the annual operation report required in § 288.283 (relating to annual operation report).

(6) A record of actions taken to correct violations of the act, the environmental protection acts and this title.

(7) A record of rejected waste loads, and the reason for rejecting the loads. For noncaptive facilities, the name of the transporter and the name, mailing address and county of the generator shall also be included.

(8) For noncaptive facilities, the following:

(i) The transporters of the waste.

(ii) The name, mailing address, county and state of each generator of residual waste.

(iii) An analysis of the quality and quantity of leachate flowing from the landfill into the leachate storage and treatment system.

(iv) A record of each incident in which radioactive material is detected in waste loads. The record shall include:

(A) The date, time and location of the occurrence.

(B) A brief narrative description of the occurrence.

(C) Specific information on the origin of the material, if known.

(D) A description of the radioactive material involved, if known.

(E) The name, address and telephone numbers of the supplier or handler of the radioactive material and the name of the driver.

(F) The final disposition of the material.

(v) A record of each vehicle, other than a combination, that exceeds 73,280 pounds gross weight and of each combination that exceeds 80,000 pounds gross weight.

(A) The record shall include:

(I) The gross weight of the vehicle when weighed at the facility.

(II) The registration plate number and home, or base state registration of the vehicle.

(III) The name, business address and telephone number of the owner of the vehicle.

(IV) The date that the weight scale was last tested in accordance with 3 Pa.C.S. Chapter 41 (relating to the Consolidated Weights and Measures Act).

(V) The date and time when the vehicle was weighed at the facility.

(B) For purposes of this subparagraph, the following terms shall have the following meanings:

Combination—Two or more vehicles physically interconnected in tandem. An example of a combination is a truck trailer attached to a semitrailer.

Gross weight—The combined weight of a vehicle or combination of vehicles and its load excluding the driver's weight.

Registration—The authority for a vehicle to operate on a highway as evidenced by the issuance of an identifying card and plate or plates.

(c) The operator shall maintain accurate operational records sufficient to determine whether residual waste is being stored under Chapter 299, Subchapter A (relating to standards for storage of residual waste).

(d) Daily and monthly operational records shall be retained for the life of the facility bond, or longer if determined by the Department to be necessary to meet the standards of the environmental protection acts. These records shall be made available to the Department upon request.

§ 288.283. Annual operation report.

(a) An operator shall submit to the Department an annual operation report by June 30 of each year.

(b) The annual operation report, which shall be submitted on a form supplied by the Department, shall include the following:

(1) The weight or volume of each type of solid waste received. For noncaptive facilities, the report shall include

the average daily volume totals computed in accordance with § 288.221 (relating to daily volume).

(2) Unless otherwise provided by the Department in writing, a topographic survey map of the same scale, contour interval and grid system as the original site plans showing the following:

(i) The contours at the beginning and the end of the year.

(ii) The completed areas of the site as well as areas partially filled but not active during the previous year.

(3) A calculation of capacity used in the previous year and remaining permitted capacity.

(4) A description of the acerage used for disposal, the acreage seeded, the acreage that has been vegetated, the acreage where vegetation is permanently established and a narrative of the operator's progress in implementing its closure plan.

(5) A current certificate of insurance as specified in § 287.373(a) (relating to proof of insurance coverage), evidencing continuous coverage for public liability insurance as required by § 287.371 (relating to insurance requirement).

(6) Changes in the previous year concerning the information required by §§ 287.124 and 287.125 (relating to identification of interests; and compliance information). The report shall state if no changes have occurred.

(7) A change in the ownership of the land upon which the facility is located or a change in a lease agreement for the use of the land that may affect or alter the operator's rights upon the land.

(8) Notification of critical stages of facility construction or operation that require certification by a registered professional engineer which will occur in the next year.

(9) A written update of the total bond liability for the facility under § 287.331 (relating to bond amount determination). If additional bonding is determined to be necessary, it shall be submitted to the Department within 90 days after the annual report is due.

(10) Certification that the operator has received the analysis or certification required by § 287.54 (relating to chemical analysis of waste) for each type of residual waste or special handling waste received at the facility, and that the residual waste or special handling waste that is received at the facility meets the conditions in the facility's permit.

(11) For noncaptive facilities, the type and weight or volume of solid waste received from each generator, including the name, mailing address, county and state of each generator.

(12) A record of detected radioactive material.

(c) The annual operation report shall be accompanied by a nonrefundable annual permit administration fee of $4,600 in the form of a check payable to the "Commonwealth of Pennsylvania."

(d) The report shall include an evaluation of whether the monitoring plan implemented under this subchapter needs to be revised to comply with § 288.252 (relating to number, location and depth of monitoring points) because of changes in groundwater elevation or other reasons. If this evaluation determines that changes in the approved groundwater monitoring plan are necessary, the operator shall immediately notify the Department and submit an application for permit modification under § 287.222 (relating to permit modification) for necessary changes in the monitoring plan.

CLOSURE PROVISIONS

§ 288.292. Closure.

(a) The operator shall implement the closure plan approved by the Department under § 288.182 (relating to closure plan).

(b) At least 180 days before implementation of a closure plan, the operator shall review its approved closure plan to determine whether the plan requires modification, and shall submit proposed changes to the Department for approval under § 287.222 (relating to permit modification).

(c) If groundwater degradation exists at closure or occurs after closure, a person shall meet one of the following:

(1) Continue to implement an approved abatement plan.

(2) Submit an application for a closure plan modification in accordance with the procedures for a major permit modification. The operator shall select one or more remediation standards that will be met in accordance with the final closure certification requirements in § 287.342 (relating to final closure certification).

(d) An application for a closure plan modification shall include the following:

(1) Technical information and supporting documentation identifying the remediation activities that will be conducted to meet and maintain the remediation standards.

(2) If a remedy relies on access to or use of properties owned by third parties, for remediation or monitoring, documentation of cooperation or agreement.

ADDITIONAL REQUIREMENTS FOR CERTAIN WASTES

§ 288.301. PCBs.

(a) Solid waste containing PCBs may not be disposed at a residual waste landfill if the disposal of the waste at a municipal waste landfill is prohibited by the Toxic Substances Control Act (15 U.S.C.A. §§ 2601—2629).

(b) Electrical transformers that contain or previously contained between 50 and 500 p.p.m. of PCBs may not be disposed until the equipment has been treated to meet either of the following:

(1) The transformer has been drained and rinsed.

(2) Free liquids have been removed from the transformer utilizing oil absorbent materials.

(c) The solvent used to rinse electrical equipment or the oil absorbent materials generated under subsection (b) shall be incinerated or disposed at a facility approved by the EPA under the Toxic Substances Control Act.

(d) The Department may impose additional requirements on the disposal of PCB-containing wastes at a residual waste landfill as the Department deems necessary to protect public health, safety, welfare and the environment.

§ 288.302. Disposal of friable asbestos-containing waste.

(a) Friable asbestos-containing waste shall be covered immediately after deposition with at least 12 inches of nonasbestos containing cover material and compacted in

accordance with the permit. Nonfriable asbestos-containing waste shall be covered within 24 hours of placement with at least 6 inches of nonasbestos containing cover material and compacted in accordance with the permit.

(b) Friable asbestos-containing waste may not be stored where residual waste landfill operations are being conducted. If insufficient cover material is available to meet the requirements of subsection (a), friable asbestos-containing waste may not be accepted or received at the facility.

(c) Friable asbestos-containing waste may not be mixed with other waste at the facility prior to being covered.

(d) The operator may not cause or allow visible emissions from areas where friable asbestos-containing waste is handled or disposed.

(e) The operator shall comply with the applicable provisions of 40 CFR 61.140—61.156 (relating to National emission standard for asbestos).

(f) Friable asbestos-containing waste may not be placed within 10 feet of the base of final cover.

(g) The operator shall establish a three dimensional grid or alternate system which can identify the disposal location of the friable asbestos-containing waste. These locations shall be recorded on a log and topographic map.

Subchapter D. ADDITIONAL REQUIREMENTS FOR CLASS I RESIDUAL WASTE LANDFILLS

ADDITIONAL APPLICATION REQUIREMENTS

§ 288.412. Liner system and leachate control plan.

(a) The application shall contain plans, drawings, cross sections and specifications for a liner system to demonstrate compliance with §§ 288.431—288.440 (relating to additional operating requirements—liner system), including the following:

(1) The design of the liner system, including thickness and characteristics of the subbase, the thickness and characteristics of the leachate detection zone, the design for the leachate monitoring system in the leachate detection zone, the nature and thickness of the liner material, the thickness and characteristics of the protective cover and leachate collection zone, and the design for the leachate collection system in the collection zone.

(2) A plan for installing the liner system.

(b) The application shall include a quality assurance and quality control plan for the construction and installation of the liner system. The plan shall include the following:

(1) A description of the testing procedures and construction methods proposed to be implemented during construction of the liner system.

(2) A description of the manner in which the protective cover and liner system will be maintained and protected in unfilled portions of the disposal area prior to and during placement of the initial lift of solid waste.

(3) A description of the manner in which the protective cover and liner system will be protected from weather prior to and during placement of the initial lift of solid waste.

(4) A description of the qualifications of the quality assurance and quality control personnel, presented in terms of experience and training necessary to implement the plan.

(5) A sampling plan for every component of the liner system, including sample size, methods for determining sample locations, sampling frequency, acceptance and rejection criteria, and methods for ensuring that corrective measures are implemented as soon as possible.

(6) A plan for documenting compliance with the quality assurance and quality control plan.

(c) The application shall demonstrate that leachate will not adversely affect the physical or chemical characteristics of the proposed liner system, or inhibit the liner's ability to restrict the flow of solid waste, solid waste constituents or leachate, based on EPA or ASTM guidelines approved by the Department.

(d) The application shall include a complete description of the physical, chemical, mechanical and thermal properties for the proposed primary and secondary liners, based on ASTM methods when appropriate. Except to the extent that the Department waives in writing one or more of the following for nonsynthetic secondary liners, these properties include:

(1) Thickness.

(2) Tensile strength at yield.

(3) Elongation at yield.

(4) Elongation at break.

(5) Density.

(6) Tear resistance.

(7) Carbon black content.

(8) Puncture resistance.

(9) Seam strength—% of liner strength.

(10) Ultraviolet light resistance.

(11) Carbon black dispersion.

(12) Permeability.

(13) Liner friction.

(14) Stress crack resistance.

(15) Oxidative induction time.

(16) Chemical compatibility.

(17) Percent recycled materials.

ADDITIONAL OPERATING REQUIREMENTS—GENERAL

§ 288.422. Areas where Class I residual waste landfills are prohibited.

(a) Except for areas that were permitted prior to July 4, 1992, Class I residual waste landfills may not be operated as follows:

(1) In the 100-year floodplain of waters of this Commonwealth.

(2) In or within 300 feet of an exceptional value wetland.

(3) In or within 100 feet of a wetland other than an exceptional value wetland, unless storage, processing and disposal will not occur within that distance and one of the following is true:

(i) If the operation is in or along the wetland, the operator has received a permit from the Department under Chapter 105 (relating to dam safety and waterway management).

(ii) If the operation is not in or along the wetland, no adverse hydrologic or water quality impacts will result.

(4) In coal bearing areas underlain by recoverable or mineable coals unless the permittee owns the underlying coal.

(5) In a valley, ravine or head of hollow where the operation would result in the elimination, pollution or destruction of a portion of a perennial stream, except that rechanneling may be allowed as provided in Chapter 105.

(6) In areas underlain by limestone or carbonate formations where the formations are greater than 5 feet in thickness and present at the topmost geologic unit. The areas include an area mapped by the Pennsylvania Geological Survey as underlain by these formations, unless competent geologic studies demonstrate the absence of sinkhole development and sinkhole-prone limestone and carbonate formations.

(7) If occupied dwellings are nearby, the following apply:

(i) Except as provided in subparagraphs (ii) and (iii), a residual waste landfill may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the facility being closer than 300 feet. Except as provided in subparagraphs (ii) and (iii), the disposal area of a residual waste landfill may not be within 500 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the disposal area being closer than 500 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(ii) For a permitted noncaptive residual waste landfill that was operating and not closed as of January 13, 2001, an expansion permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless one or both of the following conditions are met:

(A) The owner of the dwelling has provided a written waiver consenting to the facility or disposal area being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(B) The applicant owned or entered into an enforceable option contract to purchase the land on which the expansion would operate on or before January 13, 2001, and still holds the option rights, still owns the land or owns the land pursuant to the option rights contract when the permit expansion is issued. Even if the requirement of this subparagraph is met, the expansion may not be operated within 300 feet measured horizontally from an occupied dwelling and the disposal area may not be within 500 feet measured horizontally from an occupied dwelling.

(iii) A new, noncaptive residual waste landfill, permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the facility being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner. A closed, noncaptive landfill that submits an application to reopen and expand shall also be subject to this paragraph.

(iv) Notwithstanding the prohibitions in subparagraphs (ii) and (iii), an access road to a residual waste landfill may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the access road being closer than 300 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(8) Within 100 feet of a perennial stream unless storage, processing and disposal will not occur within that distance and no adverse hydrologic or water quality impacts will result.

(9) Within 100 feet of a property line, unless one of the following applies:

(i) Actual disposal will not occur within that distance.

(ii) The owner has provided a written consent to the facility being closer than 100 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(10) Within 1/4 mile upgradient and within 300 feet downgradient of a private or public water source, for disposal, processing and storage areas, except that the Department may waive or modify these isolation distances if the operator demonstrates and the Department finds, in writing, that the following conditions have been met:

(i) The owners of the public and private water sources in the isolation area have consented, in writing, to the location of the proposed facility.

(ii) The operator and each water source owner have agreed, in writing, that the applicant will construct and maintain at the operator's expense a permanent alternative water supply of like quantity and quality at no additional cost to the water source owner if the existing source is adversely affected by the facility.

(iii) The applicant has demonstrated that a replacement water source is technically and economically feasible and readily available for every public or private water source in the isolation area.

(11) If the facility receives or proposes to receive putrescible waste the following apply:

(i) Within 10,000 feet—or 3,048 meters—of an airport runway that is or will be used by turbine-powered aircraft during the life of disposal operations under the permit.

(ii) Within 5,000 feet—or 1,524 meters—of an airport runway that is or will be end used by piston-type aircraft during the life of disposal operations under the permit.

(iii) For areas permitted on or after January 13, 2001, in a manner in which any portion of the landfill would be an obstruction to air navigation under 14 CFR 77.23(a)(5) (relating to standards for determining obstructions).

(12) If a school, park or playground is nearby, the following apply:

(i) Except for an expansion of a noncaptive residual waste landfill permit issued prior to January 13, 2001, for a noncaptive residual waste landfill permit issued on or after January 13, 2001, within 300 yards of the following:

(A) A building which is owned by a school district or school and used for instructional purposes.

(B) A park.

(C) A playground.

(ii) The current property owner of a school building, park or playground may waive the 300-yard prohibition by signing a written waiver. Upon receipt of the waiver,

the Department will waive the 300-yard prohibition and will not use the prohibition as the basis for the denial of a new permit.

(b) The Department may waive or modify one or more of the isolation distances in subsection (a)(1), (5), (7), (8) and (10) for expansions of captive facilities if the operator of the captive facility demonstrates the following to the Department's satisfaction:

(1) The captive facility was permitted prior to July 4, 1992, or was permitted after July 4, 1992, if the Department determined the permit application for the facility to be administratively complete prior to July 4, 1992.

(2) The captive facility routinely and regularly disposed of residual waste on and after July 4, 1992.

(3) The expansion of the captive facility solely includes land which is contigous to the captive facility.

(4) The expansion of the captive facility solely includes land which is owned by the applicant on July 4, 1992.

(5) No other site is available on contiguous land for the expansion of the captive facility.

(6) The expansion of the captive facility will be designed and operated to ensure that the facility does not harm public health, safety, welfare or the environment.

* * * * *

§ 288.423. Minimum requirements for acceptable waste.

(a) A person or municipality may not dispose of residual waste at a Class I residual waste landfill unless the waste meets the following criteria:

(1) Neither the residual waste nor leachate from the waste will adversely affect the ability of the liner system to prevent groundwater degradation.

(2) Leachate generated from the residual waste will be treated by the facility's leachate treatment system under applicable laws and in a manner that will protect public health, safety and the environment.

(3) The residual waste will not react, combine or otherwise interact with other waste that is or will be disposed at the facility in a manner that will adversely affect the ability of the liner system to prevent groundwater degradation.

(4) Except to the extent that leachate recirculation is allowed in the permit, residual waste may not be bulk or noncontainerized liquid waste. Containers holding free liquids may not be accepted unless the container is less than 1 gallon in size, except as otherwise provided in the permit.

(5) The residual waste may not be allowed to react, combine or otherwise interact with other waste or materials in a way that endangers public health, safety and welfare or the environment by generating extreme heat or pressure, fire or explosion, or toxic mists, fumes, dusts or vapors. The potential for interaction shall be determined using the procedure in the EPA's "*A Method for Determining the Compatibility of Hazardous Wastes*" (EPA-600/2-80-076)—available through the Department or the National Technical Information Service (NTIS), United States Department of Commerce, Springfield, VA. 22161—or another equivalent method approved by the Department in the permit.

(6) The physical characteristics of this waste will not cause or contribute to structural instability or other operating problems at the site.

(b) A person or municipality may not dispose of municipal waste or special handling waste at a Class I residual waste landfill, except that the Department may, in the permit, approve the storage or disposal of the following types of waste generated by the operator:

(1) Industrial lunchroom or office waste.

(2) Special handling waste, other than sewage sludge, infectious or chemotherapeutic waste, waste oil or ash residue from the incineration of municipal waste.

(3) Construction/demolition waste.

(c) A person or municipality may not dispose of hazardous waste at a Class I residual waste landfill unless all of the following are met:

(1) Disposal of the waste at a residual waste landfill is authorized by Article VII (relating to hazardous waste management).

(2) The Department approves of the disposal of the waste at the residual waste landfill in the permit.

(d) A person or municipality may not dispose of solid waste at a Class I residual waste landfill if the Toxic Substances Control Act (15 U.S.C.A. §§ 2601—2629) prohibits the disposal of the solid waste at the residual waste landfill.

ADDITIONAL OPERATING REQUIREMENTS—LINER SYSTEM

§ 288.432. General limitations.

(a) The bottom of the subbase of the liner system cannot be in contact with the seasonal high water table or perched water table without the use of groundwater pumping systems.

(1) Soil mottling may indicate the presence of a seasonal high water table.

(2) Drainage systems may be utilized to prevent contact between the bottom of the subbase of the liner system and the seasonal high water table or perched water table. The operator may not use a drainage system if the system is likely to adversely affect the quality or quantity of water provided by a public or private water supply, even if a replacement supply is available under § 288.245 (relating to water supply replacement). The drainage system shall be limited to drain tile, piping, french drains or equivalent methods.

(b) For unconfined aquifers, at least 8 feet shall be maintained between the bottom of the subbase of the liner system and the regional groundwater table. The regional groundwater table may not be artificially lowered.

(c) For confined aquifers, at least 8 feet shall be maintained between the bottom of the subbase of the liner system and the top of the confining layer or the shallowest level below the bottom of the subbase where groundwater occurs as a result of upward leakage from natural or other preexisting causes. The integrity of the confining layer may not be compromised by excavation.

(d) If the approved design plans provide for the placement of additional adjacent liner, the following apply:

(1) Waste may not be placed within 25 feet of an edge of the liner.

(2) The edge of the liner shall be protected by approved soil cover, or another material approved in the permit, until additional liner is added.

(3) A lined berm at least 4 feet high shall be constructed and maintained to prevent the lateral escape of leachate.

(4) Adequate spacing shall be maintained on the inside of the berm to collect stormwater and sediment.

(e) If the approved design plans do not provide for the placement of additional adjacent liner, waste may not be placed within 15 feet of the inside top of the lined perimeter berm.

(f) A lined perimeter berm at least 4 feet high shall be constructed and maintained along the edge of the lined disposal area to prevent the lateral escape of leachate.

(g) The edge of the liner shall be clearly marked.

§ 288.433. Subbase.

(a) The subbase shall meet the following performance standards. The subbase shall:

(1) Bear the weight of the liner system, waste, waste cover material and equipment operating on the facility without causing or allowing failure of the liner system.

(2) Accommodate potential settlement without damage to the liner system.

(3) Be a barrier to the transmission of liquids.

(4) Cover the bottom and sidewalls of the facility.

(b) Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the subbase shall meet the following design requirements. The subbase shall:

(1) Consist of an upper 6 inches that is:

(i) Compacted to a standard proctor density of at least 95%.

(ii) No more permeable than 1.0×10^{-5} cm/sec., based on laboratory and field testing, unless the clay component of a composite liner is located directly above the subbase.

(iii) Hard, uniform, smooth and free of debris, rock fragments, plant materials and other foreign material.

(2) Have a postsettlement slope of at least 2% and no more than 33%.

§ 288.434. Secondary liner.

(a) *General.* The secondary liner shall meet the following requirements:

(1) The secondary liner shall prevent the migration of leachate through the liner to the greatest degree that is technologically possible.

(2) The effectiveness of the secondary liner in preventing the migration of leachate may not be adversely affected by the physical or chemical characteristics of solid waste, solid waste constituents or leachate from the facility.

(3) The secondary liner shall be resistant to physical failure, chemical failure and other failure from the sources identified under § 288.412(d) (relating to liner system and leachate control plan).

(4) The secondary liner shall cover the bottom and sidewalls of the facility.

(b) *Alternative design requirements.* Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the secondary liner shall meet, at the minimum, the requirements of Appendix A, Table I (relating to minimum liner design standards).

(c) *Requirements.* A secondary liner shall:

(1) Be no more permeable than 1.0×10^{-7} cm/sec. based on laboratory testing. For nonsynthetic liners, field testing shall also be conducted.

(2) Be installed, if the liner is synthetic, according to manufacturer's specifications under the supervision of an authorized representative of the manufacturer. An approved quality assurance and quality control plan shall be implemented in the field during the installation of the liner.

(3) Be designed, installed and maintained, if the liners are remolded clay, according to a quality assurance and quality control plan approved by the Department for remolded clay liners.

(4) Be inspected for uniformity, damage and imperfections during construction and installation.

(d) *Compacted lifts.* Secondary liners made of clay, bentonite and bentonite-like materials shall be constructed in compacted lifts not exceeding 6 inches in depth. A lift shall be scarified before placement of the next lift.

(e) *Composite secondary liner.*

(1) If the operator does not design, construct, operate and maintain a composite primary liner, the operator shall design, construct, operate and maintain a composite secondary liner which has the following components:

(i) An upper component made of a manufactured geosynthetic liner that meets the requirements of this section independently of the composite component.

(ii) A composite component made of earthen material that meets the requirements of this section independently of the upper component, except that the composite component shall be no more permeable than 1.0×10^{-6} cm/sec. based on laboratory and field testing.

(2) The two components of the composite liner shall be designed, constructed and maintained to provide a compression connection, or direct continuous contact, between them.

(3) The use of a composite secondary liner does not relieve the operator of responsibility for a separate primary liner under § 288.436 (relating to primary liner).

(f) *Natural attenuation of leachate prohibited.* A facility or a component thereof that is subject to this section may not have a secondary liner based upon natural attenuation of leachate.

§ 288.435. Leachate detection zone.

(a) The leachate detection zone shall meet the following performance standards. The leachate detection zone shall:

(1) Rapidly detect and collect liquid entering the leachate detection zone, and rapidly transmit the liquid to the leachate treatment system.

(2) Withstand chemical attack from waste or leachate.

(3) Withstand anticipated loads, stresses and disturbances from overlying waste, waste cover materials and equipment operation.

(4) Function without clogging.

(5) Prevent the liner from puncturing, cracking, tearing, stretching or otherwise losing its physical integrity.

(6) Cover the bottom and sidewalls of the facility.

(b) Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the leachate detection zone of a liner system shall meet the following design requirements:

(1) Be at least 12 inches thick.

(2) Contain no material exceeding 0.5 inches in particle size.

(3) Create a flow zone between the secondary liner and the primary liner equal to or more permeable than 1.0×10^{-2} cm/sec. based on a laboratory testing and, when required by the Department, field testing.

(4) Contain a perforated piping system capable of detecting and intercepting liquid within the leachate detection zone and conveying the liquid to a collection sump for storage, processing or disposal. The sump shall be separate from the leachate collection sump, and shall be of a sufficient size to transmit leachate that is generated.

(5) The piping system shall also meet the following requirements:

(i) The slope, size and spacing of the piping system shall assure that liquids drain from the leachate detection zone.

(ii) The pipes shall be installed primarily perpendicular to the flow and shall have a minimum postsettlement grade of at least 2%.

(iii) The minimum diameter of the perforated pipe shall be 4 inches with a wall thickness of Schedule-80 or greater, as specified by ASTM, or equivalent.

(iv) The pipes shall be cleaned and maintained as necessary.

(6) The leachate detection zone shall have a minimum bottom slope of 2%.

(7) The system shall contain noncarbonate stone or aggregates with no sharp edges.

(c) The operator shall monitor the leachate detection zone weekly to determine whether liquid is flowing from the zone.

(d) If the liquid is flowing from the leachate detection zone, the operator shall immediately:

(1) Notify the Department in writing.

(2) Estimate, on a weekly basis, the volume of liquid flowing from the zone.

(3) Sample and analyze the liquid, on a quarterly basis for pH, specific conductivity, total organic carbon and chlorides. The Department may also require sampling and analysis for other constituents expected to be found in the waste.

(4) Provide written copies of flow and analysis data to the Department.

(e) If leachate flow is greater than 100 gallons per acre of lined collection area per day or more than 10% of leachate generation, the operator shall:

(1) Submit to the Department within 30 days a plan for locating the source of leachate in the leachate detection zone, and for determining the severity and cause of leachate penetration.

(2) Implement the plan upon Department approval, and complete the plan in a reasonable time not to exceed 6 months.

(3) Submit to the Department within 45 days after completion of the plan a report containing the new data collected, analysis of the data and recommendations concerning a remedial plan.

(4) Conduct quarterly sampling and analysis for the parameters in § 288.254(a)(1) (relating to sampling and analysis), and submit copies of the results of the analysis to the Department.

(f) If sampling results indicate the presence of constituents at concentrations that could result in groundwater degradation at a monitoring well, the operator shall:

(1) Submit to the Department a remedial plan for controlling the source of leachate in the leachate detection zone and correcting a malfunction or defect in the liner system, and implement the plan upon Department approval.

(2) Submit to the Department a permit modification application under § 287.222 (relating to permit modification) for increased groundwater monitoring, giving consideration to monitoring frequency, number of wells and other factors, and conduct increased groundwater monitoring upon Department approval of the application.

§ 288.436. Primary liner.

(a) *General.* The primary liner shall meet the following requirements:

(1) The primary liner shall prevent the migration of leachate through the liner to the greatest degree that is technologically possible.

(2) The effectiveness of the primary liner in preventing the migration of leachate may not be adversely affected by the physical or chemical characteristics of solid waste, solid waste constituents or leachate from the facility.

(3) The primary liner shall be resistant to physical failure, chemical failure and other failure from the properties identified under § 288.412(d) (relating to liner system and leachate control plan).

(4) The primary liner shall cover the bottom and sidewalls of the facility.

(b) *Alternative design standards.* Unless alternative design standards to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the primary liner shall meet, at the minimum, the requirements of Appendix A, Table I (relating to minimum liner design standards).

(c) *Requirements.* A primary liner shall:

(1) Be no more permeable than 1.0×10^{-7} cm/sec. based on laboratory testing.

(2) Be installed according to the manufacturer's specifications under the supervision of an authorized representative of the manufacturer. The approved quality control program shall be implemented in the field during the installation of the liner.

(3) Be inspected for uniformity, damage and imperfections during construction or installation.

(d) *Composite primary liner.*

(1) If the operator does not design, construct, operate and maintain a composite secondary liner, the operator

shall design, construct, operate and maintain a composite primary liner which has the following requirements:

(i) An upper component made of a manufactured geosynthetic liner that meets the requirements of this section independently of the composite component.

(ii) A composite component made of earthen material that meets the requirements of § 288.434 (relating to secondary liner) independently of the upper component, except that the composite component shall be no more permeable than 1.0×10^{-6} cm/sec. based on laboratory and field testing.

(2) The two components of the composite liner shall be designed, constructed and maintained to provide a compression connection, or direct continuous contact between them.

(3) The use of a composite primary liner does not relieve the operator of responsibility for a separate secondary liner under § 288.434.

(e) *Natural attenuation of leachate prohibited.* Except as provided in subsection (d), a facility or a component thereof that is subject to this section may not have a primary liner made of clay or earthen material or a primary liner based upon natural attenuation of leachate.

§ 288.438. Leachate collection system within protective cover.

(a) The leachate collection system within the protective cover shall meet the following performance standards. The leachate collection system shall:

(1) Ensure that free flowing liquids and leachate will drain continuously from the protective cover to the leachate treatment system without ponding or accumulating on the liner.

(2) Ensure that the depth of leachate on or above the primary liner does not exceed 1 foot.

(3) Withstand chemical attack from leachate.

(4) Withstand anticipated loads, stresses and disturbances from overlying waste, waste cover materials and equipment operation.

(5) Function without clogging.

(6) Cover the bottom and sidewalls of the facility.

(b) Unless alternative design requirements to the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the leachate collection system with the protective cover shall comply with the following design requirements:

(1) The leachate collection system shall include a perforated piping system which is capable of intercepting free flowing liquids and leachate within the protective cover and conveying them to a collection sump for storage, processing or disposal. The collection sump shall be of a sufficient size to transmit leachate that is generated and shall be capable of automatic and continuous functioning.

(2) The perforated piping system shall be sloped, sized and spaced to assure that free flowing liquids and leachate will drain continuously from the protective cover to the collection sump or point.

(3) The minimum diameter of the perforated pipes shall be 6 inches with a wall thickness of Schedule 80 or greater as specified by ASTM, or equivalent.

(4) The leachate collection system shall contain stones or aggregates.

(5) The pipes shall be installed primarily perpendicular to the flow and shall have a minimum postsettlement grade of at least 2%.

(6) The leachate collection system shall be cleaned and maintained as necessary.

(7) The leachate collection system shall have a minimum bottom slope of 2%.

ADDITIONAL OPERATING REQUIREMENTS—LEACHATE TREATMENT

§ 288.454. Leachate recirculation.

(a) In conjunction with the treatment methods in §§ 288.452 and 288.453 (relating to basic treatment methods; and leachate transportation), recirculation of leachate generated at the facility may be utilized if the following exist:

(1) The area subject to leachate recirculation previously has been filled with solid waste.

(2) There is sufficient residual waste capacity to absorb the leachate.

(3) The area subject to leachate recirculation is underlain by a leachate collection system.

(4) Leachate recirculation is conducted with an approved piping system located under the intermediate cover, and causes no odors, runoff or ponding.

(5) The leachate is not a hazardous waste.

(b) An alternative leachate recirculation method may be used if approved by the Department.

§ 288.455. Leachate collection and storage.

(a) Impoundments or tanks for storing leachate before or during treatment shall be constructed in accordance with §§ 299.122, 299.142 and 299.145 (relating to storage tanks; general requirements; and failure).

(b) An onsite leachate storage system shall be part of each leachate treatment method used by the operator. The storage system shall contain impoundments or tanks for storage of leachate. For noncaptive facilities, the tanks or impoundments shall have a storage capacity at least equal to the maximum expected production of leachate for a 30-day period for the life of the facility estimated under § 288.413 (relating to leachate treatment plan). For captive facilities, the tank or impoundment shall have sufficient storage capacity to ensure proper operation of the treatment facility in accordance with the approved leachate treatment plan and shall meet the performance standard in § 288.438(a)(2) (relating to leachate collection system within protective cover). No more than 25% of the total leachate storage capacity may be used for flow equalization on a regular basis.

(c) The impoundments or tanks shall be aerated as necessary to prevent and control odors. Impoundments or tanks shall each have a capacity of at least 250,000 gallons, unless otherwise approved by the Department.

(d) The storage capacity of impoundments and tanks at a site shall be increased, if additional storage is required, prior to each major phase of construction and as otherwise necessary.

(e) Leachate storage capacity may not be considered to include leachate that may have collected in or on the liner system.

(f) Necessary collection and containment systems shall be installed prior to the deposition of solid waste at the site. The leachate treatment or handling system approved

by the Department under § 288.413 shall be installed or ready for use prior to the storage or disposal of solid waste at the site.

(g) For areas permitted after January 13, 2001, all underground pipes used for the transport of leachate from the liner system to the leachate storage impoundments or tanks shall be equipped with secondary containment or comply with the requirements in § 245.445 (relating to methods for release detection for piping). Secondary containment shall be designed, constructed and installed to direct any release to an area that can be inspected for leaks.

Subchapter E. ADDITIONAL REQUIREMENTS FOR CLASS II RESIDUAL WASTE LANDFILLS

ADDITIONAL APPLICATION REQUIREMENTS

§ 288.512. Liner system and leachate control plan.

(a) The application shall contain plans, drawings, cross sections and specifications for a liner system to demonstrate compliance with §§ 288.531—288.539 (relating to additional operating requirements—liner system), including the following:

(1) Design of the liner system, including thickness and characteristics of the subbase, the thickness and characteristics of the leachate detection zone, the design for the leachate monitoring system in the leachate detection zone, the nature and thickness of the liner material, the thickness and characteristics of the protective cover and leachate collection zone and the design for the leachate collection system in the collection zone.

(2) A plan for installing the liner system.

(b) The application shall include a quality assurance and quality control plan for the construction and installation of the liner system. The plan shall include the following:

(1) A description of the testing procedures and construction methods proposed to be implemented during construction of the liner system.

(2) A description of the manner in which the protective cover and liner system will be maintained and protected in unfilled portions of the disposal area prior to and during placement of the initial lift of solid waste.

(3) A description of the manner in which the protective cover and liner system will be protected from weather prior to and during placement of the initial lift of solid waste.

(4) A description of the qualifications of the quality assurance and quality control personnel, presented in terms of experience and training necessary to implement the plan.

(5) A sampling plan for every component of the liner system, including sample size, methods of determining sample locations, sampling frequency, acceptance and rejection criteria, and methods for ensuring that corrective measures are implemented as soon as possible.

(6) A plan for documenting compliance with the quality assurance and quality control plan.

(c) The application shall demonstrate that leachate will not adversely affect the physical or chemical characteristics of the proposed liner system, or inhibit the liner's ability to restrict the flow of solid waste, solid waste constituents or leachate based on EPA or ASTM guidelines approved by the Department.

(d) The application shall include a complete description of the physical, chemical, mechanical and thermal properties for the proposed liner, based on ASTM methods when appropriate. These properties shall include the following:

(1) Thickness.

(2) Tensile strength at yield.

(3) Elongation at yield.

(4) Elongation at break.

(5) Density.

(6) Tear resistance.

(7) Carbon black content.

(8) Puncture resistance.

(9) Seam strength—% of liner strength.

(10) Ultraviolet light resistance.

(11) Carbon black dispersion.

(12) Permeability.

(13) Liner friction.

(14) Stress crack resistance.

(15) Oxidative induction time.

(16) Chemical compatibility.

(17) Percent recycled materials.

ADDITIONAL OPERATING REQUIREMENTS—GENERAL

§ 288.522. Areas where Class II residual waste landfills are prohibited.

(a) Except for areas that were permitted prior to July 4, 1992, Class II residual waste landfills may not be operated as follows:

(1) In the 100-year floodplain of waters of this Commonwealth.

(2) In or within 300 feet of an exceptional value wetland.

(3) In or within 100 feet of a wetland other than an exceptional value wetland, unless storage, processing and disposal will not occur within that distance and one of the following is true:

(i) If the operation is in or along the wetland, the operator has received a permit from the Department under Chapter 105 (relating to dam safety and waterway management).

(ii) If the operation is not in or along the wetland, no adverse hydrologic or water quality impacts will result.

(4) In coal bearing areas underlain by recoverable or mineable coals unless the permittee owns the underlying coal.

(5) In a valley, ravine or head of hollow where the operation would result in the elimination, pollution or destruction of a portion of a perennial stream, except that rechanneling may be allowed as provided in Chapter 105.

(6) In areas underlain by limestone or carbonate formations where the formations are greater than 5 feet in thickness and present at the topmost geologic unit. The areas include areas mapped by the Pennsylvania Geological Survey as underlain by these formations, unless competent geologic studies demonstrate the absence of sinkhole development and sinkhole-prone limestone and carbonate formations.

(7) If occupied dwellings are nearby, the following apply:

(i) Except as provided in subparagraphs (ii) and (iii), a residual waste landfill may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the facility being closer than 300 feet. Except as provided in subparagraphs (ii) and (iii), the disposal area of a residual waste landfill may not be within 500 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the disposal area being closer than 500 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(ii) For a permitted noncaptive residual waste landfill that was operating and not closed as of January 13, 2001, an expansion permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless one or both of the following conditions are met:

(A) The owner of the dwelling has provided a written waiver consenting to the facility or disposal area being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver form the owner.

(B) The applicant owned or entered into an enforceable option contract to purchase the land on which the expansion would operate on or before January 13, 2001, and still holds the option rights, still owns the land or owns the land pursuant to the option rights contract when the permit expansion is issued. Even if the requirement of this subparagraph is met, the expansion may not be operated within 300 feet measured horizontally from an occupied dwelling and the disposal area may not be within 500 feet measured horizontally from an occupied dwelling.

(iii) A new, noncaptive residual waste landfill, permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the facility being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner. A closed, noncaptive landfill that submits an application to reopen and expand shall also be subject to this paragraph.

(iv) Notwithstanding the prohibitions in subparagraphs (ii) and (iii), an access road to a residual waste landfill may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the access road being closer than 300 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(8) Within 100 feet of a perennial stream, unless storage, processing and disposal will not occur within that distance and no adverse hydrologic or water quality impacts will result.

(9) Within 100 feet of a property line, unless one of the following applies:

(i) Actual disposal will not occur within that distance.

(ii) The owner has provided a written consent to the facility being closer than 100 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(10) For processing, disposal and storage areas, within 1/4-mile upgradient, and within 300 feet downgradient, of a private or public water source, except that the Department may waive or modify these isolation distances if the operator demonstrates and the Department finds, in writing, that the following conditions have been met:

(i) The owners of the public and private water sources in the isolation area have consented, in writing, to the location of the proposed facility.

(ii) The operator and each water source owner have agreed, in writing, that the applicant will construct and maintain at the operator's expense a permanent alternative water supply of like quantity and quality at no additional cost to the water source owner if the existing source is adversely affected by the facility.

(iii) The applicant has demonstrated that a replacement water source is technically and economically reasonible and readily available for every public or private water source in the isolation area.

(11) If the facility receives or proposes to receive putrescible waste as follows:

(i) Within 10,000 feet—or 3,048 meters—of an airport runway that is or will be used by turbine-powered aircraft during the life of disposal operations under the permit.

(ii) Within 5,000 feet—or 1,524 meters—of an airport runway that is or will be used by piston-type aircraft during the life of disposal operations under the permit.

(iii) For areas permitted on or after January 13, 2001, in a manner in which any portion of the landfill would be an obstruction to air navigation under 14 CFR 77.23(a)(5) (relating to standards for determining obstructions).

(12) If a school, park or playground is nearby, the following apply:

(i) Except for an expansion of a noncaptive residual waste landfill permit issued prior to January 13, 2001, for a noncaptive residual waste landfill permit issued on or after January 13, 2001, within 300 yards of the following:

(A) A building which is owned by a school district or school and used for instructional purposes.

(B) A park.

(C) A playground.

(ii) The current property owner of a school building, park or playground may waive the 300-yard prohibition by signing a written waiver. Upon receipt of the waiver, the Department will waive the 300-yard prohibition and will not use the prohibition as the basis for the denial of a new permit.

(b) The Department may waive or modify one or more of the isolation distances in subsection (a)(1), (5), (7), (8) and (10) for expansions of captive facilities if the operator of the captive facility demonstrates the following to the Department's satisfaction:

(1) The captive facility was permitted prior to July 4, 1992, or was permitted after July 4, 1992, if the Department determined the permit application for the facility to be administratively complete prior to July 4, 1992.

(2) The captive facility routinely and regularly disposed of residual waste on and after the effective date of these regulations.

(3) The expansion of the captive facility solely includes land which is contiguous to the captive facility.

(4) The expansion of the captive facility solely includes land which is owned by the applicant on July 4, 1992.

(5) No other site is available on contiguous land for the expansion of the captive facility.

(6) The expansion of the captive facility will be designed and operated to ensure that the facility does not harm public health, safety, welfare or the environment.

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§ 288.523. Minimum requirements for acceptable waste.

(a) A person or municipality may not dispose of residual waste at a Class II residual waste landfill unless the waste meets the following criteria:

(1) The residual waste may not be of a type from which the maximum concentration obtained for a contaminant, based on a chemical analysis of its leachate submitted under § 287.132 (relating to chemical analysis of waste), and approved by the Department, exceeds 50 times the waste classification standard for that contaminant. If analytical quantitation limits prevent determination of the acceptability of a residual waste under this paragraph, the Department may consider the total analysis of the waste as well as the physical and chemical characteristics of the contaminant in making a determination of acceptability of the waste at the facility.

(2) Notwithstanding the limitation in paragraph (1), the Department may authorize the disposal of residual waste at a monofill if the waste is of a type from which the maximum concentration obtained for a contaminant, based on a chemical analysis of its leachate submitted under § 287.132, exceeds 50 times the SMCL for that contaminant, if the SMCL is the waste classification standard for the contaminant. The Department may authorize the disposal of the waste only upon a demonstration that disposal of the waste at the facility will not cause groundwater degradation that exceeds the SMCL for a contaminant at a monitoring point or groundwater degradation that exceeds background levels at the property boundary for the contaminant.

(3) Even if a waste meets the requirements of this section, and the Department has previously authorized the disposal of the waste at the facility, the Department may require that the waste be disposed at a Class I landfill if one of the following applies:

(i) Monitoring data indicate that the waste or contaminants of the waste are migrating from the landfill.

(ii) The approved chemical and leaching analysis no longer accurately predicts the leachability of the waste.

(4) The Department may authorize a facility which disposes of a waste in accordance with a permit under this article to continue to dispose of the waste at the facility although a waste classification standard for a contaminant has been changed so that the waste would no longer meet the criteria for disposal of the waste at the facility under paragraph (1), if the operator of the facility demonstrates to the Department's satisfaction that disposal of the waste will not cause groundwater degradation that exceeds the waste classification standard for a contaminant at a monitoring point or groundwater degradation that exceeds background levels at the property boundary for a contaminant.

(5) If more than one type of waste or waste contaminants are identified in the chemical and leaching analysis, the waste shall be disposed at the most protective type of facility required for the waste types and waste contaminants identified in the analysis.

(6) Neither residual waste nor leachate from the waste will adversely affect the ability of the liner system to prevent groundwater degradation.

(7) Leachate generated from the residual waste will be treated by the facility's leachate treatment system under applicable laws in a manner that will protect public health, safety and the environment.

(8) The residual waste will not react, combine or otherwise interact with other waste that is or will be disposed at the facility that will adversely affect the ability of the liner system to prevent groundwater degradation.

(9) Except to the extent that leachate recirculation is allowed in the permit, residual waste may not be bulk or uncontainerized liquid waste. Containers holding free liquids may not be accepted unless the container is less than 1 gallon in size, except as otherwise provided in the permit.

(10) The residual waste shall have a pH between 5.0 and 12.5 unless otherwise specified by the Department in the permit. The pH may be adjusted to meet this requirement.

(11) The residual waste may not be allowed to react, combine or otherwise interact with other waste or materials to endanger public health, safety and welfare or the environment by generating extreme heat or pressure, fire or explosion, or toxic mists, fumes, dusts or vapors. The potential for the interaction shall be determined using the procedure in the EPA's "*A Method for Determining the Compatibility of Hazardous Wastes*" (EPA-600/2-80-076) or another equivalent method approved by the Department in the permit.

(12) The physical characteristics of the waste will not cause or contribute to structural instability or other operating problems at the site.

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ADDITIONAL OPERATING REQUIREMENTS—LINER SYSTEM

§ 288.532. General limitations.

(a) The bottom of the subbase of the liner system cannot be in contact with the seasonal high table or perched water table without the use of groundwater pumping systems.

(1) Soil mottling may indicate the presence of a seasonal high groundwater table.

(2) Drainage systems may be utilized to prevent contact between the bottom of the subbase of the liner system and the seasonal high water table or perched water table. The operator may not use a drainage system if the system is likely to adversely affect the quality or quantity of water provided by any public or private water supply, even if a replacement supply is available under § 288.245 (relating to water supply replacement). The drainage system shall be limited to drain tile, piping and french drains, or equivalent methods.

(b) For unconfined aquifers, at least 8 feet shall be maintained between the bottom of the subbase of the liner system and the regional groundwater table. The regional groundwater table may not be artificially lowered.

(c) For confined aquifers, at least 8 feet shall be maintained between the bottom of the subbase of the liner system and the top of the confining layer or the shallowest level below the bottom of the subbase where groundwater occurs as a result of upward leakage from natural or other preexisting causes. The integrity of the confining layer may not be compromised by excavation.

(d) If the approved design plans provide for the placement of additional adjacent liner, the following apply:

(1) Waste may not be placed within 25 feet of an edge of the liner.

(2) The edge of the liner shall be protected by an approved soil cover, or another material approved in the permit, until additional liner is added.

(3) A lined berm at least 4 feet high shall be constructed and maintained to prevent the lateral escape of leachate.

(4) Adequate spacing shall be maintained on the inside of the berm to collect stormwater and sediment.

(e) If the approved design plans do not provide for the placement of additional adjacent liner, waste may not be placed within 15 feet of the inside top of the lined perimeter berm.

(f) A lined perimeter berm at least 4 feet high shall be constructed and maintained along the edge of the lined disposal area to prevent the lateral escape of leachate.

(g) The edge of the liner shall be clearly marked.

§ 288.533. Subbase.

(a) The subbase shall meet the following performance standards. The subbase shall:

(1) Bear the weight of the liner system, waste, waste cover material and equipment operating on the facility without causing or allowing any failure of the liner system.

(2) Accommodate potential settlement without damage to the liner system.

(3) Be a barrier to the transmission of liquids.

(4) Cover the bottom and sidewalls of the facility.

(b) Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the subbase shall meet the following design requirements. The subbase shall:

(1) Consist of an upper 6 inches that is:

(i) Compacted to a standard proctor density of at least 95%.

(ii) No more permeable than 1.0×10^{-5} cm/sec. based on laboratory and field testing.

(iii) Hard, uniform, smooth and free of debris, rock fragments, plant materials and other foreign material.

(2) Have a postsettlement slope of at least 2% and no more than 33%.

§ 288.534. Leachate detection zone.

(a) The leachate detection zone shall meet the following performance standards. The leachate detection zone shall:

(1) Rapidly detect and collect liquid entering the leachate detection zone, and rapidly transmit the liquid to the leachate treatment system.

(2) Withstand chemical attack from waste or leachate.

(3) Withstand anticipated loads, stresses and disturbances from overlying waste, waste cover materials and equipment operation.

(4) Function without clogging.

(5) Prevent the liner from puncturing, cracking, tearing, stretching or otherwise losing its physical integrity.

(6) Cover the bottom and sidewalls of the facility.

(b) Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the leachate detection zone of a liner system shall meet the following design requirements. The leachate detection zone shall:

(1) Be at least 12 inches thick.

(2) Contain no material exceeding 0.5 inches in particle size.

(3) Create a flow zone between the subbase and the liner equal to or more permeable than 1.0×10^{-2} cm/sec., based on laboratory testing, and when required by the Department, field testing.

(4) Contain a perforated piping system capable of detecting and intercepting liquid within the leachate detection zone and conveying the liquid to a collection sump for storage, processing or disposal. The sump shall be separate from the leachate collection sump and shall be of sufficient size to transmit leachate that is generated. The piping system shall also meet the following:

(i) The slope, size and spacing of the piping system shall assure that liquids drain from the leachate detection zone.

(ii) The pipes shall be installed primarily perpendicular to the flow and shall have a minimum postsettlement grade of at least 2%.

(iii) The minimum diameter of the perforated pipe shall be 4 inches with a wall thickness of Schedule-80 or greater as specified by ASTM or equivalent.

(iv) The pipes shall be cleaned and maintained as necessary.

(5) Have a minimum bottom slope of 2%.

(6) Contain noncarbonate stones or aggregates with no sharp edges.

(c) The operator shall monitor the leachate detection zone weekly to determine whether liquid is flowing from the zone.

(d) If liquid is flowing from the leachate detection zone, the operator shall immediately:

(1) Notify the Department in writing.

(2) Estimate, on a weekly basis, the volume of liquid flowing from the zone.

(3) Sample and analyze the liquid, on a quarterly basis, for pH, specific conductivity, total organic carbon and chlorides. The Department may also require sampling and analysis for other constituents expected to be found in the waste.

(4) Provide written copies of flow and analysis data to the Department.

(e) If leachate flow is greater than 100 gallons per acre of lined collection area per day, or more than 10% of leachate generation, the operator shall:

(1) Submit to the Department a plan within 30 days for locating the source of leachate in the leachate detection zone, and for determining the severity and cause of leachate penetration.

(2) Implement the plan upon Department approval, and complete the plan in a reasonable time not to exceed 6 months.

(3) Submit to the Department within 45 days after completion of the plan a report containing the new data collected, analysis of the data, and recommendations concerning a remedial plan.

(4) Conduct quarterly sampling and analysis for the parameters in § 288.254(a)(1) (relating to sampling and analysis), and submit copies of the results of the analysis to the Department.

(f) If sampling results indicate the presence of constituents at concentrations that could result in groundwater degradation, the operator shall submit the following to the Department:

(1) A remedial plan for controlling the source of leachate in the leachate detection zone and correcting a malfunction or defect in the liner system, and implement the plan upon Department approval.

(2) A permit modification application under § 287.222 (relating to permit modification) for increased groundwater monitoring, giving consideration to monitoring frequency, number of wells and other factors, and conduct increased groundwater monitoring upon Department approval of the application.

§ 288.535. Liner.

(a) *Standards of performance.* The liner shall meet the following standards of performance:

(1) The liner shall prevent the migration of leachate through the liner to the greatest degree that is technologically possible.

(2) The effectiveness of the liner in preventing the migration of leachate may not be adversely affected by the physical or chemical characteristics of solid waste, solid waste constituents or leachate from the facility.

(3) The liner shall be resistant to physical failure, chemical failure and other failure from the sources identified under § 288.512(d) (relating to liner system and leachate control plan).

(4) The liner shall cover the bottom and sidewalls of the facility.

(b) *Alternative design requirements.* Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the liner shall meet, at a minimum, the requirements of Appendix A, Table II (relating to minimum liner design standards).

(c) *Requirements.* A liner shall meet the following standards. A liner shall include:

(1) An upper component made of a manufactured geosynthetic liner that meets the following requirements independently of the composite component:

(i) The upper component shall be no more permeable than 1.0×10^{-7} cm/sec. based on laboratory testing.

(ii) The upper component shall be installed according to manufacturer's specifications under the supervision of an authorized representative of the manufacturer. An approved assurance and quality control program shall be implemented in the field during the installation of the liner.

(iii) The upper component shall be inspected for uniformity, damage and imperfections during construction and installation.

(2) A composite component made of earthen material that meets the following requirements independent of the upper component:

(i) The composite component shall be no more permeable than 1.0×10^{-6} cm/sec. based on laboratory testing and field testing.

(ii) The composite component shall be designed, installed and maintained according to a quality assurance and quality control plan approved by the Department.

(iii) The composite component shall be inspected for uniformity, damage and imperfections during construction and installation.

(iv) The composite component shall be constructed in compacted lifts not exceeding 6 inches in depth, if the composite component is more than 6 inches in thickness. A lift shall be scarified before placement of the next lift.

(3) The two components of the composite liner shall be designed, constructed and maintained to provide a compression connection, or direct continuous contact, between them.

§ 288.537. Leachate collection system within protective cover.

(a) The leachate collection system within the protective cover shall meet the following performance standards. The leachate collection system shall:

(1) Ensure that free flowing liquids and leachate will drain continuously from the protective cover to the leachate treatment system without ponding or accumulating on the liner.

(2) Ensure that the depth of leachate on or above the liner does not exceed 1 foot.

(3) Withstand chemical attack from leachate.

(4) Withstand anticipated loads, stresses and disturbances from overlying waste, waste cover materials and equipment operation.

(5) Function without clogging.

(6) Cover the bottom and sidewalls of the facility.

(b) Unless alternative design requirements to the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the leachate collection system within the protective cover shall comply with the following design requirements:

(1) The leachate collection system shall include a perforated piping system which is capable of intercepting free flowing liquids and leachate within the protective cover and conveying them to a collection sump for storage, processing or disposal. The collection sump shall be of sufficient size to transmit leachate that is generated and shall be capable of automatic and continuous functioning.

(2) The perforated piping system shall be sloped, sized and spaced to assure that free flowing liquids and leachate will drain continuously from the protective cover to the collection sump or point.

(3) The minimum diameter of the perforated pipes shall be 6 inches with a wall thickness of Schedule 80 or greater as specified by ASTM, or equivalent.

(4) The leachate collection zone shall contain stones or aggregates.

(5) The pipes shall be installed primarily perpendicular to the flow and shall have a minimum postsettlement grade of at least 2%.

(6) The leachate collection system shall be cleaned and maintained as necessary.

(7) The leachate collection system shall have a minimum bottom slope of 2%.

ADDITIONAL OPERATING REQUIREMENTS—LEACHATE TREATMENT

§ 288.554. Leachate recirculation.

(a) In conjunction with the treatment methods in §§ 288.552 and 288.553 (relating to basic treatment methods; and leachate transportation), recirculation of leachate generated at the facility may be utilized if the following conditions exist:

(1) The area subject to leachate recirculation previously has been filled with solid waste.

(2) There is sufficient residual waste capacity to absorb the leachate.

(3) The area subject to leachate recirculation is underlain by a leachate collection system.

(4) Leachate recirculation is conducted with an approved piping system located under the intermediate cover, and causes no odors, runoff or ponding.

(5) The leachate is not a hazardous waste.

(b) An alternate leachate recirculation method may be used if approved by the Department.

§ 288.555. Leachate collection and storage.

(a) Impoundments or tanks for storing leachate before or during treatment shall be constructed in accordance with §§ 299.122, 299.142 and 299.145 (relating to storage tanks; general requirements; and failure).

(b) An onsite leachate storage system shall be part of each leachate treatment method used by the operator. The storage system shall contain impoundments or tanks for storage of leachate. For noncaptive facilities, the tanks or impoundments shall have a storage capacity at least equal to the maximum expected production of leachate for a 30-day period for the life of the facility estimated under § 288.513 (relating to leachate treatment plan). For captive facilities, the tank or impoundment shall have sufficient storage capacity to ensure proper operation of the treatment facility in accordance with the approved leachate treatment plan and shall meet the performance standard in § 288.537(a)(2) (relating to leachate collection system within protective cover). No more than 25% of the total leachate storage capacity may be used for flow equalization on a regular basis.

(c) The impoundments or tanks shall be aerated as necessary to prevent and control odors. Impoundments or tanks shall each have a capacity of at least 250,000 gallons, unless otherwise approved by the Department.

(d) The storage capacity of impoundments and tanks at a site shall be increased, if additional storage is required, prior to each major phase of construction and as otherwise necessary.

(e) Leachate storage capacity may not be considered to include leachate that may have collected in or on the liner system.

(f) Necessary collection and containment systems shall be installed prior to the deposition of solid waste at the site. A leachate treatment or handling system approved by the Department under § 288.513 shall be installed or ready for use prior to the storage or disposal of solid waste at the site.

(g) For areas permitted after January 13, 2001, all underground pipes used for the transport of leachate from the liner system to the leachate storage impoundments or tanks shall be equipped with secondary containment or comply with the requirements in § 245.445 (relating to methods for release detection for piping). Secondary containment shall be designed, constructed and installed to direct any release to an area that can be inspected for leaks.

Subchapter F. ADDITIONAL REQUIREMENTS FOR CLASS III RESIDUAL WASTE

ADDITIONAL OPERATING REQUIREMENTS—GENERAL

§ 288.621. Basic requirements.

(a) In addition to the operating requirements in Subchapter C (relating to operating requirements), a person or municipality that operates a Class III residual waste landfill shall comply with §§ 288.622—288.625.

(b) Only captive facilities, waste tire monofills, water treatment plant sludge monofills and coal ash monofills qualify as Class III residual waste landfills.

§ 288.622. Areas where Class III residual waste landfills are prohibited.

(a) Except for areas that were permitted prior to July 4, 1992, a Class III residual waste landfill may not be operated as follows:

(1) In the 100-year floodplain of waters of this Commonwealth.

(2) In or within 300 feet of an exceptional value wetland.

(3) In or within 100 feet of a wetland other than an exceptional value wetland, unless storage, processing and disposal will not occur within that distance and one of the following is true:

(i) If the operation is in or along the wetland, the operator has received a permit from the Department under Chapter 105 (relating to dam safety and waterway management).

(ii) If the operation is not in or along the wetland, no adverse hydrologic or water quality impacts will result.

(4) In coal bearing areas underlain by recoverable or mineable coals unless the permittee owns the underlying coal.

(5) In a valley, ravine or head of hollow where the operation would result in the elimination, pollution or destruction of a portion of a perennial stream, except that rechanneling may be allowed as provided in Chapter 105.

(6) In areas underlain by limestone or carbonate formations where the formations are greater than 5-feet in thickness and present at the topmost geologic unit. The areas include area mapped by the Pennsylvania Geological Survey as underlain by these formations, unless

competent geologic studies demonstrate the absence of sinkhole development and sinkhole-prone limestone and carbonate formations.

(7) If occupied dwellings are nearby, the following apply:

(i) Except as provided in subparagraphs (ii) and (iii), a residual waste landfill may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the facility being closer than 300 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner. Except as provided in subparagraphs (ii) and (iii), the disposal area of a residual waste landfill may not be within 500 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the disposal area being closer than 500 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(ii) For a permitted noncaptive residual waste landfill that was operated and not closed as of January 13, 2001, an expansion permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless one or both of the following conditions are met:

(A) The owner of the dwelling has provided a written waiver consenting to the facility or disposal area being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(B) The applicant owned or entered into an enforceable option contract to purchase the land on which the expansion would operate on or before January 13, 2001, and still holds the option rights, still owns the land or owns the land pursuant to the option rights contract when the permit expansion is issued. Even if the requirement of this subparagraph is met, the expansion may not be operated within 300 feet measured horizontally from an occupied dwelling and the disposal area may not be within 500 feet measured horizontally from an occupied dwelling.

(iii) A new, noncaptive residual waste landfill permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the facility being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner. A closed, noncaptive landfill that submits an application to reopen and expand shall also be subject to this paragraph.

(iv) Notwithstanding the prohibitions in subparagraphs (ii) and (iii), an access road to a residual waste landfill may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the access road being closer than 300 feet. A waiver shall be knowingly made and separate form a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(8) Within 100 feet of a perennial stream, unless storage, processing and disposal will not occur within that distance and no adverse hydrologic or water quality impacts will result.

(9) Within 100 feet of a property line, unless one of the following applies:

(i) Actual disposal will not occur within that distance.

(ii) The owner has provided a written consent to the facility being closer than 100 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(10) For disposal, processing and storage areas, within 1/4-mile upgradient, and within 300 feet downgradient, of a private or public water source, except that the Department may waive or modify these isolation distances if the operator demonstrates and the Department finds, in writing, that the following conditions have been met.

(i) The owners of the public and private water sources in the isolation area have consented, in writing, to the location of the proposed facility.

(ii) The operator and each water source owner have agreed, in writing, that the applicant will construct and maintain at the operator's expense a permanent alternative water supply of like quantity and quality at no additional cost to the water source owner if the existing source is adversely affected by the facility.

(iii) The applicant has demonstrated that a replacement water source is technically and economically feasible and readily available for every public or private water source in the isolation area.

(11) If the facility receives or proposes to receive putrescible waste as follows:

(i) Within 10,000 feet—or 3,048 meters—of an airport runway that is or will be used by turbine-powered aircraft during the life of disposal operations under the permit.

(ii) Within 5,000 feet—or 1,524 meters—of an airport runway that is or will be used by piston-type aircraft during the life of disposal operations under the permit.

(iii) For areas permitted on or after January 13, 2001, in a manner in which any portion of the landfill would be an obstruction to air navigation under 14 CFR 77.23(a)(5) (relating to standards for determining obstructions).

(12) If a school, park or playground is nearby, the following apply:

(i) Except for an expansion of a noncaptive residual waste landfill permit issued prior to January 13, 2001, for a noncaptive residual waste landfill permit issued on or after January 13, 2001, within 300 yards of the following:

(A) A building which is owned by a school district or school and used for instructional purposes.

(B) A park.

(C) A playgound.

(ii) The current property owner of a school building, park or playground may waive the 300-yard prohibition by signing a written waiver. Upon receipt of the waiver, the Department will waive the 300-yard prohibition and will not use the prohibition as the basis for the denial of a new permit.

(b) The Department may waive or modify one or more of the isolation distances in subsection (a)(1), (5), (7), (8) and (10) for expansions of captive facilities if the operator of the captive facility demonstrates the following to the Department's satisfaction:

* * * * *

§ 288.623. Minimum requirements for acceptable waste.

(a) A person or municipality may not dispose of residual waste at a Class III residual waste landfill unless the waste meets all of the following criteria:

(1) The residual waste may not be of a type from which the maximum concentration obtained for contaminant, based on a chemical analysis of its leachate submitted under § 287.132 (relating to chemical analysis of waste), and approved by the Department, exceeds the following:

(i) For metals and other cations, 25 times the waste classification standard for a contaminant.

(ii) For contaminants other than metals and cations, the waste classification standard for a contaminant. If analytical quantitation limits prevent determination of the acceptability of a residual waste under this paragraph, the Department may consider the total analysis of the waste as well as the physical and chemical characteristics of the contaminant in making a determination of acceptability of the waste at the facility.

(2) Residual waste may not be disposed of at the facility if the disposal of the waste at the facility will result in a level of groundwater degradation at one or more monitoring points that exceeds the level of degradation that would result at the same monitoring points from the disposal of the waste at the facility if the facility were designed, constructed and operated as a Class II landfill. The Department may approve the disposal of waste at a monofill that contains contaminants other than metals or cations with a maximum concentration that is less than 10 times the waste classification standard for the contaminants, based on a chemical analysis of its leachate submitted under § 287.132, if the following are met:

(i) Disposal of the waste will improve preexisting groundwater degradation.

(ii) Preexisting degradation did not result from activities of the person or municipality that proposes to dispose of residual waste, or a related party to the person or municipality.

(3) Even if a waste meets the requirements of this section, and the Department has previously authorized the disposal of the waste at the facility, the Department may require that the waste be disposed at a Class II or Class I landfill if one of the following applies:

(i) Monitoring data indicate that the waste or contaminants of the waste are migrating from the landfill.

(ii) The approved chemical and leaching analysis of the waste no longer accurately predict the leachability of the waste.

(4) The Department may authorize a facility which disposes of a waste in accordance with a permit under this article to continue to dispose of the waste at the facility although a waste classification standard for a contaminant has been amended in a way that the waste would no longer meet the criteria for disposal of the waste at the facility under paragraph (1), if the operator of the facility demonstrates to the Department's satisfaction that disposal of the waste will not cause degradation that exceeds the waste classification standard for a contaminant at a monitoring point or groundwater degradation that exceeds background levels at the property boundary for a contaminant.

(5) If more than one type of waste or waste contaminants are identified in the chemical and leaching analysis, the waste shall be disposed at the most protective type of facility required for the waste types and waste contaminants identified in the analysis.

(6) The residual waste may not be a wastewater treatment sludge, unless it has been stabilized or solidified.

(7) The type, volume and concentration of constituents of residual waste being proposed for disposal shall indicate that the waste and its leachate are capable of being attenuated by the soil under the disposal area in a manner that will prevent groundwater degradation.

(8) The residual waste will not react, combine or otherwise interact with other waste that is or will be disposed at the facility in a manner that will adversely affect the ability of the attenuating soil to prevent degradation of groundwater.

(9) The residual waste may not have a petroleum based oil and grease content that exceeds 1% by dry weight.

(10) Except to the extent that leachate recirculation is allowed in the permit, residual waste may not be bulk or noncontainerized liquid waste. Containers holding free liquids may not be accepted unless the container is less than 1 gallon in size, except as otherwise provided in the permit.

(11) The residual waste shall have a pH between 5.5 and 9.5 unless otherwise specified by the Department in the permit. The pH may be adjusted to meet this requirement.

(12) The residual waste may not be allowed to react, combine or otherwise interact with other waste or materials to endanger public health, safety and welfare or the environment by generating extreme heat or pressure, fire or explosion, or toxic mists, fumes, dusts or vapors. The potential for interaction shall be determined using the procedure in the EPA's "*A Method for Determining the Compatibility of Hazardous Wastes*" (EPA-600/2-80-076) or another equivalent method approved by the Department in the permit.

(13) Municipal waste may not be stored, processed or disposed at the facility, except as follows:

(i) The Department may, in the permit, approve the storage or disposal of construction/demolition waste generated by the operator.

(ii) The Department may permit water treatment plant sludge monofills or waste tire monofills.

(14) The physical characteristics of the waste will not cause or contribute to structural instability or other operating problems at the site.

* * * * *

§ 288.624. Attenuating soil.

(a) *Disposal of residual waste.* Residual waste may not be disposed at a Class III residual waste landfill, unless attenuating soil exists in the disposal area or has been placed on the entire disposal area.

(1) At least 4 feet separate the seasonal high water table, perched water table or bedrock from the lowest area where waste is deposited. Soil mottling may indicate the presence of a seasonal high water table. The seasonal high water table and perched water table may not be artificially manipulated. The seasonal high water table may not be located within the attenuating soil base.

(2) At least 8 vertical feet separate the regional groundwater table from the lowest area where waste is deposited. The regional groundwater table may not be artificially manipulated. The regional groundwater table may not be located within the attenuating soil base.

(b) *Standards of performance.* The attenuating soil shall meet the following standards of performance:

(1) The attenuating soil shall prevent migration of contaminants to the surface and groundwater to the greatest degree that is technologically possible.

(2) The performance of the attenuating soil may not be affected by the physical or chemical characteristics of the waste.

(3) The attenuating soil shall cover the bottom and sidewalls of the facility.

(c) *Alternative design requirements.* Unless alternative design requirements to meet the performance standards in subsection (b) are approved as part of the permit under § 287.231 (relating to equivalency review procedure) where site-specific conditions are included in the demonstration, the attenuating soil shall meet the requirements of subsection (d). If a design under this section is modified, the modification shall be a major permit modification.

(d) *Requirements.* The attenuating soil required by this section shall meet the following requirements:

(1) The soil shall fall within the United States Department of Agriculture textural classes of sandy loam, loam, sandy clay loam, silty clay loam, loamy sand and silt loam.

(2) At least 40% by weight of the fragments in the soil shall be capable of passing through a 2 millimeter, No. 10 mesh sieve.

(3) The soil may not include rock fragments greater than 6 inches in diameter.

(4) The soil shall have a cation exchange capacity of at least 10 milliequivalents per 100 grams of soil.

(5) The soil shall have an organic carbon content of at least 0.1%.

APPENDIX A

TABLE I

MINIMUM LINER DESIGN STANDARDS

Liner Material	*Function*	*Minimum Field Thickness (Units as Specified)*	*Liner Density (Tests as Specified)*	*Remarks*
Geosynthetics	Primary or Secondary Liner	30 mil	N/A	1. A greater thickness may be required depending upon the recommendations of the manufacturer. HDPE liners shall be at least 60 MIL.
Geosynthetics	Cap	30 mil	N/A	1. A greater thickness may be required depending upon the recommendations of the manufacturer.
* * * * *				
Geosynthetic Clay Liner (GCL)	Composite Component	N/A	N/A	1. Minimum of 3/4 pound of powdered or granular sodium bentonite per square foot.

* Percentage of maximum when using Standard Proctor method of design (Pa. PTM No. 106, Method B).

TABLE II

MINIMUM LINER DESIGN STANDARDS

Liner Material	*Function*	*Minimum Field Thickness (Units as Specified)*	*Liner Density (Tests as Specified)*	*Remarks*
Geosynthetics	Liner, Cap	30 mil	N/A	1. A greater thickness may be required depending upon the recommendations of the manufacturer. HDPE liners shall be at least 60 MIL.
Natural & Remolded Clay	Cap, Composite Component	2 feet 1 foot	>=90%* >=90%*	1. Minimum of 30% fines by weight less than 0.074 mm particle size (#200 sieve). 2. Plasticity Index greater than or equal to 10. 3. No coarse fragments greater than 3/4 inch in diameter.

Liner Material	*Function*	*Minimum Field Thickness (Units as Specified)*	*Liner Density (Tests as Specified)*	*Remarks*
Sodium Bentonite and Bentonite-like materials	Cap, Composite Component	2 feet 1 foot	≥90%* ≥90%*	1. Minimum of 8% powdered sodium bentonite or manufacturer's recommendations, whichever is greater. 2. No coarse fragments greater than 3/4 inch in diameter. 3. No organic matter.
Geosynthetic Clay liner (GCL)	Composite Component	N/A	N/A	1. Minimum of 3/4 pound of powdered or granular sodium bentonite.

* Percentage of maximum when using Standard Proctor method of design (Pa. PTM No. 106, Method B).

CHAPTER 289. RESIDUAL WASTE DISPOSAL IMPOUNDMENTS

Subchapter B. APPLICATION REQUIREMENTS

PHASE I APPLICATION REQUIREMENTS—GENERAL PROVISIONS

§ 289.111. Basic requirements.

The Phase I application shall:

(1) Comply with §§ 289.112—289.114 and 289.121—289.129.

(2) Comply with Chapter 287, Subchapter C (relating to general requirements for permits and permit applications).

§ 289.112. Facility plan.

An application to operate a residual waste disposal impoundment shall contain conceptual drawings and a narrative describing the following:

(1) The general operational concept for the proposed facility, including the origin, composition and weight or volume of solid waste that is proposed to be disposed of at the facility, the type of liner system, the proposed capacity of the facility, the expected life of the facility and the size, sequence and timing of solid waste disposal operations at the facility.

(2) A detailed description of the volume or soil needed to construct and operate the facility and the method by which the soil will be delivered. The description will include the number of trucks, the access roads they will use, delivery times and any other information relevant to assessing the impacts of the operation.

§ 289.113. Maps and related information.

(a) An application shall contain a topographic map, on a scale of 1 inch equals no more than 200 feet with 10-foot maximum contour intervals. The Department may, in writing, approve the use of a different horizontal scale. The application shall include the map and necessary narrative descriptions, which show the following:

(1) Boundaries and names of the present owners of record of land, both surface and subsurface, and including easements, rights-of-way and other property interests, for the proposed permit area and adjacent area; and a description of title, deed or usage restrictions affecting the proposed permit area.

(2) The boundaries of the land to be affected during the estimated total life of the proposed operation, including the boundaries of areas that will be affected in each sequence of disposal impoundment activity and boundaries of areas that will be used for impoundments.

(3) The location of the areas on and off the permit area which are proposed to be excavated to obtain earthen material for the construction of the facility, for cover material, for the liner system and for other construction purposes.

(4) The location and name of public and private water sources within 1/2 mile of the proposed facility. If more than 50 wells are located within the 1/2-mile radius, the applicant may identify only the closest wells in each direction and generally describe the location and number of wells further away.

(5) The location, name and elevation of surface water bodies, such as springs, streams, lakes, ponds, wetlands, constructed or natural drains and irrigation ditches within 1/4 mile of the proposed facility.

(6) The location of the active and inactive gas and oil wells, active and inactive surface and underground coal and noncoal mines, coal seams to a depth of 500 feet, mine spoil piles, dumps, dams, embankments and mine pool discharge points within 1/4 mile of the proposed facility.

(7) The location of rights-of-way for high-tension power lines, pipelines, railroads and public and private roads within 1/4 mile of the proposed facility.

(8) The location of buildings in use within 1/4 mile of the proposed facility.

(9) If solid waste disposal or processing has previously taken place within 1/4 mile of the proposed facility, the names of the owners or operators, or both, of the facility, the type of solid waste processed or disposed, and if applicable, cross sections indicating the interface details between areas previously filled and areas to be filled.

(10) The anticipated location of water quality monitoring points.

(11) The boundaries of land within the proposed permit area and adjacent areas identified in § 289.422 or § 289.522 (relating to areas where Class I residual waste disposal impoundments are prohibited; and areas where Class II residual waste disposal impoundments are prohibited), whichever is applicable.

(12) The elevation and location of test borings and core samplings taken under § 289.122 (relating to geology and groundwater description), and the location of test pits or excavations taken under § 289.124 (relating to soil description).

(13) The municipalities in which the permit area is proposed to be located.

(14) The location of sinkholes, fractures, fracture traces, outcrops, lineaments and mine pools in the proposed permit area and adjacent area.

(15) The location of water discharges into a surface body of water in the proposed permit area and adjacent area.

(16) The location of 100-year floodplain boundaries in the proposed permit area and adjacent area.

(b) An application shall contain a topographic map showing the location and name of public water sources within 3 miles downstream or downgradient from the proposed facility, and the boundary of the proposed permit area. The map shall be on a scale of 1 inch equals no more than 2,000 feet with 20-foot maximum contour intervals, including necessary narrative descriptions.

PHASE I APPLICATION REQUIREMENTS—SITE ANALYSIS

§ 289.121. Description of geology, soils and hydrology; general requirements.

In preparing the soils, geology and hydrology descriptions required by this section and §§ 289.122—289.127 the applicant shall include information about the proposed permit area and the adjacent area. Plans and cross sections submitted to comply with this section and §§ 289.122—289.129 shall be on a scale satisfactory to the Department. The map shall be on a scale of 1 inch equals no more than 200 feet, with contour intervals at a maximum of 10 feet. Maps and cross sections submitted for a particular application shall be of the same or easily compared scales.

§ 289.122. Geology and groundwater description.

(a) An application shall contain a description of the geology and groundwater in the proposed permit area and adjacent areas down to and including the lowest aquifer that may be affected by the facility, including the following:

(1) The results of a sufficient number of test borings and core borings to accurately characterize geology, soils, groundwater flow, groundwater chemistry and flow systems of the proposed permit area and adjacent area, which shall be at least three test borings. At least one test boring shall be a core boring. The applicant shall include the actual surface elevations of the drill holes.

(2) The stratigraphy, lithologic, physical characteristics and thickness of each stratum, including the location and depth of aquifers.

(3) The hydrologic characteristics of each aquifer described in paragraph (2), including field test data for hydraulic conductivity, storage coefficient and transmissivity, groundwater hydraulic gradient and velocity. The description of these characteristics shall be based on multiple well aquifer tests. Alternative techniques approved by the Department may be employed when multiple well aquifer tests are not feasible. The application shall include the procedures and calculations used to determine these characteristics.

(4) The geologic structure within the proposed permit area and adjacent area, and its relation to the regional geological structure.

(5) The uses of each aquifer.

(6) The aquifer characteristics necessary to accurately describe three dimensional groundwater flow through the proposed permit area and adjacent area, including storage and discharge characteristics.

(7) The extent of coal and noncoal mineral deposits and mines within the proposed permit area, as required by § 289.127 (relating to mineral deposits information).

(8) Wellhead protection areas in accordance with § 109.1 (relating to definitions) that may be impacted by the facility.

(9) A groundwater contour map based upon the highest groundwater level recorded monthly in each boring for the previous year. The Department may require more frequent measurements after significant precipitation events.

(b) A boring or coring not cased and capped and not to be used for groundwater monitoring shall be grouted shut or otherwise sealed in a manner approved by the Department.

§ 289.124. Soil description.

(a) An application shall contain:

(1) The depth to the seasonal high water table within the proposed permit area and adjacent area to demonstrate that the seasonal high water table will not be in contact with the liner system.

(2) A description of the soils to be used for intermediate and final cover, and facility construction, including chemical description, texture, laboratory particle size analyses and quantity. Cross sections of the borrow pits within the proposed permit area shall be included.

(b) In preparing the description of soils and elevations, the applicant shall:

(1) Base the description on a sufficient number of pits, excavations and samples to allow an accurate characterization of the soils in the proposed permit area and adjacent area and each onsite or offsite borrow area.

(2) Use the following soil classification systems:

(i) For intermediate and final cover, the United States Department of Soil Classification System. The United States Department of Agriculture's Soil Classification System is published in "Soil Taxonomy"—Agriculture Handbook #436 of the United States Department of Agriculture, Soil Conservation Service, and is available from the Department or the National Technical Center of the Soil Conservation Service, 160 E. 7th Street, Chester, Pennsylvania 19013-6092.

(ii) For the liner system, site construction and other noncover uses, the Unified Soil Classification System.

(3) Conduct required laboratory particle size analysis according to ASTM D 422 (Standard Method for Particle-Size Analysis of Soils) or another analytical method approved, in writing, by the Department prior to the analysis.

§ 289.127. Mineral deposits information.

(a) If the proposed permit area and adjacent area overlie existing workings of an underground mine, the applicant shall submit sufficient information to evaluate the potential for mine subsidence damage to the facility, including the following:

(1) Maps and plans showing the existing workings underlying and within 1,000 feet of the proposed facility.

(2) An investigation with supporting documentation, by a registered professional engineer with geotechnical expertise addressing the probability and potential impacts of future subsidence. The investigation shall address the potential for additional mining beneath the permit and adjacent area, the stability of the final underground workings, the maximum subsidence likely to occur in the future and the effect of that subsidence on the integrity of

the facility, and measures which have been or will be taken to stabilize the surface.

(b) If the proposed permit area and adjacent area overlies recoverable or mineable coals, the applicant shall demonstrate that the applicant owns the coal and shall warrant that the coal will not be mined as long as residual waste remains on the site, except for surface mining activities approved in the permit for purposes of facility construction.

§ 289.128. Notification of proximity to airport.

An applicant shall notify the Bureau of Aviation of the Department of Transportation, the Federal Aviation Administration and the airport if a proposed disposal impoundment or expansion, that is planned to receive putrescible waste, is within 6 miles of an airport runway. The application shall include a copy of each notification and each response to each notification received by the applicant.

PHASE II APPLICATION REQUIREMENTS—GENERAL PROVISIONS

§ 289.131. Basic requirements.

(a) The Phase II permit application shall:

(1) Comply with this section and §§ 289.132—289.138, 289.141, 289.142, 289.151, 289.152, 289.161—289.163, 289.171 and 289.172.

(2) Comply with Chapter 287, Subchapter E (relating to bonding and insurance requirements).

(b) Applications, plans, cross sections, modules and narratives shall demonstrate how the construction and operating requirements of Subchapter C (relating to operating requirements) will be implemented, and shall include quality control measures necessary to ensure proper implementation.

(c) The plans, designs, cross sections and maps required by this section and §§ 289.132—289.138, 289.141, 289.142, 289.151, 289.152, 289.161—289.163, 289.171 and 289.172 shall be on a scale in which 1 inch equals no more than 200 feet with 10-foot maximum contour intervals.

§ 289.132. Operation plan.

An application shall contain a description of the residual waste disposal impoundment operations proposed during the life of the facility within the proposed permit area, including, at a minimum, the following:

(1) A narrative describing the type and method of residual waste disposal impoundment procedures, procedures for inspection and monitoring of incoming waste, sequence of disposal activity, type of disposal activity, proposed engineering techniques and the major equipment to be used under § 289.225 (relating to equipment), using the maps and grids required by § 289.133 (relating to map and grid requirements) as a basis for the description.

(2) A narrative explaining the method and schedule for construction, operation, modification, use, maintenance and removal of the following components of the proposed facility, unless their retention is proposed for postclosure land use:

(i) Dams, embankments, ditches and other impoundments.

(ii) Borrow pits, soil storage and handling areas and structures.

(iii) Water and air pollution control facilities.

(iv) Erosion and sedimentation control facilities.

(v) Equipment storage and maintenance buildings, and other buildings.

(vi) Access roads.

(3) A construction schedule and sequence of operations, and a site preparation plan and a schedule for disposing of solid waste at the site.

(4) An explanation of how the applicant intends to comply with § 289.224 (relating to measurement of waste).

(5) A plan for assuring that solid waste received at the facility is consistent with the following:

(i) Section 289.201 (relating to basic limitations).

(ii) Section 289.423 or § 289.523 (relating to minimum requirements for acceptable waste; and minimum requirements for acceptable waste), whichever applies.

(6) The proposed operating hours of the proposed facility. The operating hours include those hours related to construction and other activities related to operation of the facility.

§ 289.133. Map and grid requirements.

(a) An application shall contain a topographic map of the proposed permit and adjacent areas showing the following:

(1) The boundaries of lands proposed to be affected over the estimated total life of the proposed operation and the sequence of disposal and closure.

(2) A change in a component of the facility or a feature within the proposed permit area to be caused by the proposed operation.

(3) Buildings, utility corridors and facilities which will be used in the operation.

(4) The areas of land for which a bond will be posted under Chapter 287, Subchapter E (relating to bonding and insurance requirements).

(5) The solid waste storage, processing or unloading areas.

(6) The water diversion, collection, conveyance, erosion and sedimentation control, treatment, storage and discharge facilities to be used.

(7) The gas management, collection and control facilities, if required.

(8) The boundaries of construction activities.

(9) The location of barriers, fences and similar structures required by § 289.222 (relating to access control).

(10) The location of each sedimentation pond, permanent water impoundment or similar facility.

(11) The location of access roads to the site, including slopes, grades and lengths of the roads.

(12) The location and identity of monitoring wells.

(13) For noncaptive residual waste disposal impoundments, a designated area for vehicles for use in the event of the detection of waste containing radioactive material. The designated area shall, by location or shielding, protect the environment, facility staff and public from radiation originating in the vehicle. The Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, describes various factors to consider in determining an appropriate designated area.

(b) The applicant shall also submit a grid coordinate system for the entire proposed permit area. The horizontal control system shall consist of a grid not to exceed 200-foot square sections unless the facility is larger than 250 acres and the Department approves, in writing, the use of a grid that exceeds 200-foot square sections. A permanent benchmark for horizontal and vertical control shall be shown. The grid system shall be a state or universal grid system and shall be tied to the benchmark and the baseline.

§ 289.134. Plan for access roads.

The application shall contain designs, cross sections and specifications for access roads, including load limits, in accordance with § 289.223 (relating to access roads).

§ 289.136. Nuisance minimization and control plan.

(a) The application shall contain a plan in accordance with § 289.228 (relating to nuisance minimization and control) to minimize and control hazards or nuisances from vectors, odors, noise, dust, unsightliness and other nuisances not otherwise provided for in the permit application.

(b) The plan shall include the following:

(1) Provisions for the routine assessment and control of vector infestation.

(2) Methods to minimize and control nuisances from odors, dustfall and noise off the property boundary from the facility.

(3) For odors, the determination of normal and adverse weather conditions based on site-specific meteorological data. Prior to the installation of equipment and collection of meteorological data, a protocol for the installation and data collection shall be approved by the Department.

(c) The plan required in subsection (a) may include a contractual arrangement for services of an exterminator or an air quality, noise, dust control or other professional.

§ 289.137. Daily volume.

The application shall contain proposed average and maximum daily volumes for the facility, and a detailed justification for these volumes, based on §§ 287.126 and 287.127 (relating to requirements for environmental assessment; and environmental assessment).

§ 289.138. Radiation Protection Action Plan.

(a) An application for a noncaptive residual waste disposal impoundment shall contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, recordkeeping and reporting.

(b) The action plan shall be prepared in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, or in a manner at least as protective of the environment, facility staff and public health and safety and which meets all statutory and regulatory requirements.

(c) The action plan shall be incorporated into the disposal impoundment's approved waste analysis plan under § 287.134 (relating to waste analysis plan).

PHASE II APPLICATION REQUIREMENTS—COVER AND REVEGETATION

§ 289.141. Cover plan.

An application shall contain a plan for cover at the proposed facility under § 289.242 (relating to cover) including, at a minimum, the following information:

(1) The procedures for application of cover material.

(2) The procedures to establish elevation and grade of final cover.

PHASE II APPLICATION REQUIREMENTS—WATER QUALITY PROTECTION AND MONITORING

§ 289.152. Water quality monitoring plan.

(a) An application shall contain a water quality monitoring plan showing how the operator intends to comply with §§ 289.261—289.268 (relating to water quality monitoring). The plan shall include, at a minimum, the following:

(1) The number, location and design of proposed monitoring points.

(2) For new facilities, preoperational data showing existing groundwater quality, as required by § 289.123 (relating to groundwater quality description), and a procedure to establish this groundwater quality. For existing facilities, adequate monitoring data as required by § 288.123 (relating to groundwater quality description) to characterize background groundwater quality and a procedure to establish this groundwater quality.

(b) The application shall contain a groundwater sampling and analysis plan. The plan shall include:

(1) Procedures and techniques designed to accurately measure groundwater quality upgradient, beneath and downgradient of the proposed waste disposal area.

(2) Department approved sampling and analytical methods that are specific to the proposed facility and that will accurately measure solid waste, solid waste constituents, leachate or constituents of decomposition in the groundwater.

(3) Procedures and techniques for sample collection, sample preservation and shipment, analytical procedures, chain of custody control and field and laboratory quality assurance and quality control.

(4) Procedures and techniques for evaluation of analytical results to determine if groundwater degradation has occurred.

(c) The Department may approve the use of an alternate groundwater monitoring system for facilities located in the anthracite coal region if the applicant demonstrates the following to the Department's satisfaction with a detailed hydrogeologic study:

(1) The nature and extent of underground coal mining beneath the proposed facility makes impracticable the installation of the groundwater monitoring system required by this subchapter.

(2) The proposed alternate system is capable of completely and accurately identifying adverse effects on groundwater from the proposed facility.

PHASE II APPLICATION REQUIREMENTS—CLOSURE PROVISIONS

§ 289.172. Closure plan.

(a) The application shall contain a plan describing the activities that are proposed to occur in preparation for closure and after closure to ensure compliance with this chapter.

(b) The closure plan shall include:

(1) A plan for the decontamination and removal of equipment, structures and related material from the facility.

(2) An estimate of the year in which final closure will occur, including an explanation of the basis for the estimate.

(3) A description of the steps necessary for closure if the facility closes prematurely.

(4) A narrative description, including a schedule of measures that are proposed to be carried out in preparation for closure and after closure at the facility, including measures relating to the following:

(i) Water quality monitoring.

(ii) Gas control and monitoring.

(iii) Leachate collection and treatment.

(iv) Erosion and sedimentation control.

(v) Revegetation and regrading, including maintenance of the final cover.

(vi) Access control, including maintenance of access control.

(5) A description of the means by which funds will be made available to cover the cost of postclosure operations, which shall include an assessment of projected postclosure maintenance costs, a description of how the necessary funds will be raised, a description of where the funds will be deposited, copies of relevant legal documents and a description of how the funds will be managed prior to closure.

(6) The name, address and telephone number at which the operator may be reached during the postclosure period.

(c) A person or municipality may propose, as part of the closure plan submitted under this section, to remove standing liquids, waste and waste residues, liners, and underlying and surrounding contaminated soil, and to dispose of the waste material at a solid waste management facility that is permitted to accept the waste. The person or municipality may request final closure certification under § 287.342 (relating to final closure certification) upon completion of a closure plan approved under this subsection.

Subchapter C. OPERATING REQUIREMENTS

GENERAL PROVISIONS

§ 289.201. Basic limitations.

(a) Except as provided in subsection (b), a person or municipality may not own or operate a residual waste disposal impoundment unless the Department has first issued a permit to the person or municipality for the facility under this chapter.

(b) A person or municipality may conduct monitoring under § 289.123 (relating to groundwater quality description) without a permit from the Department if the Department has given written approval for the monitoring based on written plans that are consistent with this chapter.

(c) A person or municipality that operates a residual waste disposal impoundment shall comply with the following:

(1) The act, this article and other applicable regulations promulgated under the act.

(2) The plans and specifications in the permit, the terms and conditions of the permit, the environmental protection acts, the Department's regulations and orders issued by the Department.

(d) A person or municipality may not allow residual waste to be disposed at the facility unless the Department has specifically approved the disposal of the waste at the facility, in the permit.

(e) All approved mitigation measures identified in the permit application shall be completed before a facility may accept waste unless otherwise authorized in writing by the Department for technical reasons.

(f) The following radioactive material controlled under specific or general license or order authorized by any Federal, state or other government agency may not be disposed at the facility, unless specifically exempted from disposal restriction by an applicable Pennsylvania or Federal statute or regulation:

(1) Naturally occurring and accelerator produced radioactive material.

(2) Byproduct material.

(3) Source material.

(4) Special nuclear material.

(5) Transuranic radioactive material.

(6) Low-level radioactive waste.

(g) The following radioactive material may not be disposed at the facility, unless approved in writing by the Department and the disposal does not endanger the environment, facility staff or public health and safety.

(1) Short-lived radioactive material from a patient having undergone a medical procedure.

(2) TENORM.

(3) Consumer products containing radioactive material.

(h) The limitations in subsections (f) and (g) do not apply to radioactive material as found in the undisturbed natural environment of the Commonwealth.

WASTE LIMITATIONS

§ 289.212. Waste solidification.

(a) A person or municipality may not dispose of residual waste at a residual waste disposal impoundment unless the waste meets both of the following:

(1) The free liquid fraction of the waste shall readily separate from the solid fraction and shall be collected and discharged in accordance with this chapter.

(2) The waste shall solidify by a chemical or physical process concurrently with disposal or within the shortest period of time technologically practicable. Except for impoundments subject to §§ 289.438(c) and 289.537(c) (relating to leachate collection system within protective cover; and leachate collection system within protective cover), the waste shall solidify prior to closure.

(b) The waste in the impoundment after the requirements of subsection (a) have been met shall be capable of withstanding a minimum bearing capacity of 1.5 tons per square foot with a minimum factor of safety of 1.5. The bearing capacity and minimum factor of safety may be waived by the Department in the permit based upon the postclosure use of the facility.

DAILY OPERATIONS

§ 289.221. Signs and markers.

(a) Permanent physical elevation markers for the impoundment area shall be:

(1) Posted and maintained for the duration of the operations to which they pertain.

(2) Clearly visible, readable and uniform throughout the operation.

(3) Permanently fixed and made of a durable material.

(b) The perimeter of the site shall be clearly marked before the beginning of operations.

(c) The permanent physical elevation markers shall be installed at the locations in the permit, prior to the beginning of disposal operations.

(d) A person or municipality that operates a noncaptive residual waste disposal impoundment shall identify the facility for the duration of operations by posting and maintaining a sign which is clearly visible and can be easily seen and read at the junction of each access road and public road. The sign shall be constructed of a durable, weather-resistant material. The sign shall show the name, business address and telephone number of the person or municipality that operates the facility, the operating hours of the facility and the number of the current permit authorizing operation of the facility.

§ 289.222. Access control.

(a) At facilities except local captive facilities the following requirements apply:

(1) A gate or other barrier shall be maintained at potential vehicular access points to block unauthorized access to the site when an attendant is not on duty.

(2) The operator shall maintain a fence or other suitable barrier around the site, including impoundments, lagoons, leachate collection and treatment systems and gas processing facilities, sufficient to prevent unauthorized access.

(3) Access to the site shall be limited to times when an attendant is on duty.

(b) At local captive facilities, the operator shall comply with subsection (a) unless the Department approves in the permit alternative means of protecting access to the site that afford an equivalent degree of protection.

§ 289.223. Access roads.

(a) Access roads shall be designed, constructed and maintained to prevent erosion to the maximum extent possible and to prevent contributions of sediment to streams or runoff outside the site.

(b) Crossing of a perennial or intermittent stream or a wetland shall be made using bridges, culverts or similar structures. Bridges, culverts or other encroachments or water obstructions shall meet the requirements of Chapter 105 (relating to dam safety and waterway management).

(c) An access road shall have a drainage system that is compatible with the natural drainage system, structurally stable and which will pass safely the peak flow from a 25-year, 24-hour precipitation event. For roads that are used or in existence for more than 30 days, the drainage system shall include sloped or crowned road surfaces, cross drains or culverts, stabilized ditches, erosion resistant surfacing, sediment traps and other appropriate sediment control measures as required by § 289.252 (relating to soil erosion and sedimentation control).

(d) An access road shall be paved or surfaced with asphalt, gravel, cinders or other equivalent material approved by the Department in the permit. An access road shall be capable of withstanding the load limits projected by the applicant under § 289.134 (relating to plan for access roads). The maximum sustained grade of an access road may not exceed 12% unless otherwise approved by the Department for captive facilities.

(e) Except for captive facilities where the Department has set forth alternate requirements in the permit and except for roads not leading to the disposal area, the disposal impoundment shall maintain a minimum cartway width of one of the following:

(1) Twenty-two feet for two-way traffic.

(2) Twelve feet for one-way traffic with pull-off intervals every 100 yards or a greater distance where there is a clear view of approaching vehicles.

(f) An access road negotiable by loaded collection vehicles shall be provided from the entrance gate of the facility to each unloading area. An access road shall be provided to each treatment facility, impoundment, and groundwater monitoring point. Other monitoring points shall be readily accessible.

(g) Disturbed areas adjacent to a road shall be vegetated or otherwise stabilized to prevent erosion.

(h) An access road shall be maintained to control dust and to prevent or control the tracking of mud on and off the site.

(i) An access road shall be designed, constructed and maintained to allow the orderly egress and ingress of vehicular traffic when the facility is in operation, including during inclement weather.

§ 289.224. Measurement and inspection of waste.

(a) For a noncaptive facility that has received, is receiving or will receive 30,000 or more cubic yards of solid waste in a calendar year, the following apply:

(1) Except as provided in paragraph (2), the operator shall weigh solid waste when it is received. The scale used to weigh solid waste shall conform to 3 Pa.C.S. Chapter 41 (relating to the Consolidated Weights and Measures Act) and 70 Pa. Code Part I (relating to weighmasters). The operator of the scale shall be a licensed public weighmaster under 3 Pa.C.S. Chapter 41 and 70 Pa. Code Part I.

(2) The Department may approve, in the permit, an alternative method of accurately measuring waste when it is received.

(b) For other facilities, solid waste received or disposed of at the facility shall be accurately weighed or otherwise accurately measured.

(c) The operator of a facility shall inspect and monitor incoming waste to ensure that the receipt of waste is consistent with this article.

§ 289.225. Equipment.

(a) The operator shall maintain on the site equipment necessary for the operation of the facility in accordance with the permit. The equipment shall be maintained in an operable condition.

(b) If a breakdown of the operator's equipment occurs, the operator shall utilize standby equipment as necessary to comply with the act, the environmental protection acts, this subchapter and permit conditions.

§ 289.227. Air resources protection.

(a) The operator shall implement fugitive air contaminant control measures and otherwise prevent and control air pollution in accordance with the Air Pollution Control Act (35 P. S. §§ 4001—4015); Article III (relating to air

resources) and § 289.228 (relating to nuisance minimization and control). Minimization and control measures shall include the following:

(1) Ensuring that operation of the facility will not cause or contribute to an exceedance of an ambient air quality standard under § 131.3 (relating to ambient air quality standards).

(2) Ensuring that no open burning occurs at the facility.

(3) Minimizing the generation of fugitive dust emissions from the facility.

(b) The operator shall comply with the terms and conditions of an air quality plan approval and air quality operating permit issued to the facility.

§ 289.228. Nuisance minimization and control.

(a) *Vectors*. An operator may not cause or allow the attraction, harborage or breeding of vectors.

(b) *Odors*.

(1) An operator shall implement the plan approved under § 289.136 (relating to nuisance minimization and control plan) to minimize and control public nuisances from odors. If the Department determines during operation of the facility that the plan is inadequate to minimize or control public nuisances, the Department may modify the plan or require the operator to modify the plan and obtain Department approval.

(2) An operator shall perform regular, frequent and comprehensive site inspections to evaluate the effectiveness of cover, capping, gas collection and destruction, waste acceptance and all other waste management practices in reducing the potential for offsite odor creation.

(3) An operator shall promptly address and correct problems and deficiencies discovered in the course of inspections performed under paragraph (2).

(c) *Other*. An operator shall implement the plan approved under § 289.136 to minimize and control other conditions that are harmful to the environment or public health, or which create safety hazards, odors, dust, noise, unsightliness and other public nuisances.

§ 289.229. Daily volume.

(a) A person or municipality operating a residual waste impoundment may not receive solid waste at the impoundment in excess of the maximum or average daily volume approved in the permit.

(b) The average daily volume is a limit on the volume of solid waste that is permitted to be received at the facility, and shall be computed annually by averaging the total volume received over the year.

§ 289.230. Radiation monitoring and response for noncaptive residual waste disposal impoundments.

(a) An operator shall implement the action plan approved under § 289.138 (relating to radiation protection action plan).

(b) An operator shall monitor incoming waste in accordance with the Department's *"Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities,"* Document Number 250-3100-001, or in a manner at least as protective of the environment, the facility staff and the public health and safety. Monitoring shall meet the requirements of this section and the facility's approved radiation protection action plan.

(c) Radiation detector elements shall be as close as practical to the waste load and in an appropriate geometry to monitor the waste. The radiation monitoring system shall be set to alarm at a level no higher than 10 microroentgen per hour (uR/hr) above the average background at the facility when any of the radiation detector elements is exposed to a Cesium-137 gamma radiation field. Radiation detector elements shall be shielded to maintain the average background below 10 uR/hr. If capable of energy discrimination, the radiation monitoring system shall be set to detect gamma rays of a 50 kiloelectron volt (keV) energy and higher.

(d) An operator shall have portable radiation monitors capable of determining the radiation dose rate and presence of contamination on a vehicle that has caused an alarm. Upon a confirmed exceedance of the alarm level in subsection (c), a radiological survey of the vehicle shall be performed.

(e) An operator shall notify the Department immediately and isolate the vehicle when radiation dose rates of 20 µSv/hr (2 mrem/hr) or greater are detected in the cab of a vehicle, 500 µSv/hr (50 mrem/hr) or greater are detected from any other surface, or contamination is detected on the outside of the vehicle.

(f) Monitoring equipment shall be calibrated at a frequency specified by the manufacturer, but not less than once a year.

(g) If radioactive material is detected, the vehicle containing the radioactive material may not leave the facility without written Department approval and an authorized Federal Department of Transportation Exemption Form.

COVER AND REVEGETATION

§ 289.241. (Reserved).

§ 289.242. Cover.

(a) The operator shall place final cover within 1 year after closure. The Department may require placement and revegetation of an intermediate cover that meets the requirements of § 288.233 (relating to intermediate cover and slopes), during the period between closure and construction of the final cover system.

(b) Except as provided in subsection (c), the operator shall provide final cover in the following manner:

(1) A cap shall be placed and graded over the entire surface of each final lift. The cap may be no more permeable than 1.0×10^{-7} cm/sec. The following performance standards for the cap shall be met:

(i) The cap shall minimize the migration of precipitation into the landfill.

(ii) The cap shall be resistant to physical and chemical failure.

(iii) The cap shall cover all areas where waste is disposed.

(2) A drainage layer capable of transmitting flow and preventing erosion of the soil layer shall be placed over the cap.

(3) A uniform layer of material shall be placed over the drainage layer. The layer of material shall support vegetation and protect the cap.

(c) The Department may waive the cap and drainage layer requirements of subsection (b)(1) and (2) based on a demonstration that it is not necessary to limit infiltration into the waste.

(d) Unless alternative design requirements to meet the performance standards in subsection (b)(1) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the cap shall meet the design requirements for caps in Appendix A, Table II (relating to liner design standards).

(e) The layer of material described in subsection (b)(3) and intermediate cover, if required, shall meet the following performance standards. Cover material shall:

(1) Prevent vectors, odors and other nuisances.

(2) Cover residual waste after it is placed without change in its properties and without regard to weather.

(3) Be capable of controlling fires.

(4) Be capable of supporting the germination and propagation of vegetative cover as required by §§ 289.244 and 289.245 (relating to revegetation; and standards for successful revegetation).

(5) Not crack excessively when dry.

(6) Be capable of preventing frost damage to the cap.

(7) For intermediate cover, compact well.

(8) Be consistent with the waste acceptance plan.

(f) Unless alternative design requirements to meet the performance standards in subsection (e) are approved as part of the permit under § 287.231, the layer of material described in subsection (b)(3) shall meet the following design requirements:

(1) The cover soil shall fall within the United States Department of Agriculture textural classes of sandy loam, loam, sandy clay loam, silty clay loam, loamy sand and silt loam.

(2) At least 40% by weight of the cover soil shall be capable of passing through a 2 millimeter, No. 10 mesh sieve.

(3) The cover may not include rocks that are greater than 6 inches in diameter.

(4) The layer of cover soil shall be at least 2 feet thick.

WATER QUALITY PROTECTION

§ 289.255. Water supply replacement.

(a) A person or municipality operating a residual waste disposal impoundment which adversely affects a water supply by degradation, pollution or other means shall restore the affected supply at no additional cost to the owner or replace the affected water supply with an alternate source that is of like quantity and quality to the original supply at no additional cost to the owner.

(b) A temporary water supply shall be provided as soon as practicable but not later than 48 hours after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(c) A permanent water supply shall be provided as soon as practicable but not later than 90 days after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(d) Permanent water supplies include development of a new well with a distribution system, interconnection with a public water supply or extension of a private water supply, but do not include provision of bottled water or a water tank supplied by a bulk water hauling system, which are temporary water supplies.

WATER QUALITY MONITORING

§ 289.262. Number, location and depth of monitoring points.

(a) The water quality monitoring system shall accurately characterize groundwater flow, groundwater chemistry and flow systems on the site and adjacent area. The system shall consist, at a minimum, of the following:

(1) At least one monitoring well at a point hydraulically upgradient from the disposal area in the direction of increasing static head that is capable of providing representative data of groundwater not affected by the facility, except when the facility occupies the most upgradient position in the flow system. In that case, sufficient downgradient monitoring wells shall be placed to determine the extent of adverse effects on groundwater from the facility.

(2) At least three monitoring wells at points hydraulically downgradient in the direction of decreasing static head from the area in which solid waste has been or will be disposed. In addition to the downgradient wells, the Department may allow one or more springs for monitoring points if the springs are hydraulically downgradient from the area in which solid waste has been or will be disposed, if the springs are developed and protected in a manner approved by the Department and if the springs otherwise meet the requirements of this subchapter.

(3) A leachate detection system for the disposal area, when required for the facility.

(4) A leachate collection system for the disposal areas, when required for the facility.

(5) Surface water monitoring points approved by the Department.

(b) The upgradient and downgradient monitoring wells shall be:

(1) Sufficient in number, location and depth to be representative of water quality.

(2) Located so that they do not interfere with routine facility operations.

(3) Located within 200 feet of the permitted disposal area, except as necessary to comply with subsection (c), and located at the points of compliance.

(c) In addition to the requirements of subsection (b), upgradient monitoring wells shall be located so that they will not be affected by adverse effects on groundwater from the disposal area.

(d) In addition to the requirements of subsection (b), downgradient monitoring wells shall be located so that they will provide early detection of adverse effects on groundwater from the disposal area.

(e) Wells drilled under this section shall be drilled by drillers licensed under the Water Well Drillers License Act (32 P. S. §§ 645.1—645.13).

(f) The well materials shall be decontaminated prior to installation.

§ 289.263. Standards for wells and casing of wells.

(a) Monitoring wells shall be cased as follows:

(1) The casing shall maintain the integrity of the monitoring well borehole and shall be constructed of material that will not react with the groundwater being monitored.

(2) The minimum casing diameter shall be 4 inches unless otherwise approved by the Department in writing.

(3) The well shall be constructed with a screen that meets the following requirements:

(i) The screen shall be factory-made.

(ii) The screen may not react with the groundwater being monitored.

(iii) The screen shall maximize open area to minimize entrance velocities and allow rapid sample recovery.

(4) The well shall be filter-packed with chemically inert clean quartz sand, silica or glass beads. The material shall be well rounded and dimensionally stable.

(5) The casing shall be clearly visible and protrude at least 1 foot above the ground, unless the Department has approved flush mount wells.

(6) The annular space above the sampling depth shall be sealed to prevent contamination of samples and the groundwater.

(7) The casing shall be designed and constructed in a manner that prevents cross contamination between surface water and groundwater.

(8) Alternative casing designs for wells in stable formations may be approved by the Department.

(b) Monitoring well casings shall be enclosed in a protective casing that shall:

(1) Be of sufficient strength to protect the well from damage by heavy equipment and vandalism.

(2) Be installed for at least the upper 10 feet of the monitoring well, as measured from the well cap, with a maximum stick up of 3 feet, unless otherwise approved by the Department in writing.

(3) Be grouted and placed with a concrete collar at least 3 feet deep to hold it firmly in position.

(4) Be numbered for identification with a label capable of withstanding field conditions and painted in a highly visible color.

(5) Protrude above the monitoring well casing.

(6) Have a locked cap.

(7) Be made of steel or another material of equivalent strength.

§ 289.264. Sampling and analysis.

(a) A person or municipality operating a residual waste disposal impoundment shall conduct sampling and analysis from each monitoring point for the following parameters at the following frequencies:

(1) Quarterly, for ammonia-nitrogen, bicarbonate, calcium, chloride, fluoride, chemical oxygen demand, nitrate-nitrogen, pH, specific conductance, sulfate, total alkalinity, total dissolved solids, total organic carbon, turbidity, iron, manganese, magnesium, potassium and sodium.

(2) Quarterly, for groundwater elevations in monitoring wells recorded as a distance from the elevation at the well head referenced to mean sea level based on United States Geological Survey datum.

(3) Annually, for total and dissolved concentrations for each of the following: barium, cadmium, chromium, copper, lead, mercury, selenium, silver and zinc.

(4) Annually, for the following volatile organic compounds: Tetrachloroethene, trichloroethene, 1,1,1-trichloroethane, 1,2-dibromoethane, 1,1-dichloroethene, 1,2-dichloroethene (cis and trans isomers), vinyl chloride, 1,1-dichloroethane, 1,2-dichloroethane, methylene chloride, toluene, ethylbenzene, benzene and xylene.

(5) Other constituents contained in the waste that may leach into the environment, as determined under § 287.132 (relating to chemical analysis of waste). The quarterly analysis shall be adjusted to reflect parameters detected from leachate analysis under § 289.456 or § 289.556 (relating to leachate analysis; and sludge handling).

(b) The Department may modify the requirements of this section, based on the waste analysis conducted under § 287.132 for captive residual waste disposal impoundments that receive only one type of waste, for parameters and monitoring frequencies that are not necessary to determine the actual or potential effect of the facility on surface or groundwater. This subsection does not apply to subsection (a)(1).

(c) For facilities permitted before July 4, 1992, the parameters described in this section shall be sampled and analyzed beginning October 4, 1992.

§ 289.266. Groundwater assessment plan.

(a) *Requirement*. A person or municipality operating a residual waste disposal impoundment shall prepare and submit to the Department a groundwater assessment plan within 60 days after one of the following occurs:

(1) Data obtained from monitoring by the Department or the operator indicates groundwater degradation at any monitoring point.

(2) Laboratory analysis of one or more public or private water supplies indicates groundwater degradation that could reasonably be attributed to the facility.

(b) *Exception*. The operator is not required to conduct an assessment under this section if one of the following applies:

(1) Within 10 working days after receipt of sample results indicating groundwater degradation, the operator resamples the affected wells and analysis from resampling shows to the Department's satisfaction that groundwater degradation has not occurred.

(2) Within 20 working days after receipt of sample results indicating groundwater degradation, the operator demonstrates that the degradation was caused entirely by earthmoving and other activities related to facility construction, or by seasonal variations.

(c) *Assessment plan*. The groundwater assessment plan shall specify the manner in which the operator will determine the existence, quality, quantity, areal extent and depth of groundwater degradation and the rate and direction of migration of contaminants in the groundwater. A groundwater assessment plan shall be prepared by an expert in the field of hydrogeology. The plan shall contain, at a minimum, the following information:

(1) The number, location, size, casing type and depth of wells, lysimeters, borings, pits, piezometers and other assessment structures or devices to be used. If the operator establishes compliance points as part of the assessment, the points shall be wells constructed in accordance with §§ 289.262 and 289.263 (relating to

number, location and depth of monitoring points; and standards for wells and casing of wells).

(2) Sampling and analytical methods for the parameters to be evaluated.

(3) Evaluation procedures, including the use of previously gathered groundwater quality information, to determine the concentration, rate and extent of groundwater degradation from the facility.

(4) An implementation schedule.

(5) Identification of the abatement standard that will be met.

(d) The groundwater assessment plan shall be implemented upon approval by the Department in accordance with the approved implementation schedule, and shall be completed in a reasonable time not to exceed 6 months unless otherwise approved by the Department. If the Department determines that the proposed plan is inadequate, it may modify the plan and approve the plan as modified. The operator shall notify, in writing, each owner of a private or public water supply that is located within 1/2 mile downgradient of the disposal area that an assessment has been initiated.

(e) Within 45 days after the completion of the groundwater assessment plan, the operator shall submit a report containing the new data collected, analysis of the data and recommendations on the necessity for abatement.

(f) If the Department determines after review of the groundwater assessment report that implementation of an abatement plan is not required by § 289.267 (relating to abatement plan), the operator shall submit a permit modification application under § 287.222 (relating to permit modification) for necessary changes to the groundwater monitoring plan. The operator shall implement the modifications within 30 days of the Department's approval.

(g) This section does not prevent the Department from requiring, or the operator from conducting, groundwater abatement or water supply replacement concurrently with or prior to implementation of the assessment.

§ 289.267. Abatement plan.

(a) The operator of a residual waste disposal impoundment shall prepare and submit to the Department an abatement plan when one of the following occurs:

(1) The groundwater assessment plan prepared and implemented under § 289.266 (relating to groundwater assessment plan) shows the presence of groundwater degradation for one or more contaminants at one or more monitoring points and the analysis under § 289.266(c) indicates that an abatement standard under subsection (c) will not be met.

(2) Monitoring by the Department or operator shows the presence of an abatement standard exceedance for one or more contaminants from one or more compliance points as indicated in subsection (c) even if a groundwater assessment plan has not been completed. The operator is not required to implement an abatement plan under this paragraph if the following apply:

(i) Within 10 days after receipt of sample results showing an exceedance of an abatement standard at a point of compliance described in subsection (c), the operator resamples the affected wells.

(ii) Analysis from resampling shows to the Department's satisfaction that an exceedance of an abatement standard has not occurred.

(b) An abatement plan shall be prepared by an expert hydrogeologist and submitted to the Department. The plan shall contain, at a minimum, the following information:

(1) The specific methods or techniques to be used to abate groundwater degradation from the facility.

(2) The specific methods or techniques to be used to prevent further groundwater degradation from the facility.

(3) A schedule for implementation.

(c) If abatement is required in accordance with subsection (a), the operator shall demonstrate compliance with one or more of the following standards at the identified compliance points:

(1) For constituents for which a Statewide health standards exists, the Statewide health standard for that constituent at and beyond 150 meters of the perimeter of the permitted disposal area or at and beyond the property boundary, whichever is closer.

(2) The background standard for constituents at and beyond 150 meters of the perimeter of the permitted disposal area or at and beyond the property boundary, whichever is closer.

(3) For constituents for which no primary MCL under the Federal and State Safe Drinking Water Acts (42 U.S.C.A. §§ 300f—300j-18 and 35 P. S. §§ 721.1—721.17) exist, the risk-based standard at and beyond the property boundary, whichever is closer, if the following conditions are met:

(i) The risk assessment used to establish the standard assumes that human receptors exist at the property boundary.

(ii) The level is derived in a manner consistent with Department guidelines for assessment the health risks of environmental pollutants.

(iii) The level is based on scientifically valid studies conducted in accordance with good laboratory practice standards (40 CFR Part 792 (relating to good laboratory practice standards)) promulgated under the Toxic Substances Control Act (15 U.S.C.A. §§ 2601—2692), or other scientifically valid studies approved by the Department.

(iv) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level of 1×10^{-5} at the property boundary.

(d) For measuring compliance with secondary contaminants under subsection (c)(1) or (3), the Department may approve a compliance point beyond 150 meters on land owned by the owner or the disposal area.

(e) The abatement plan shall be completed and submitted to the Department for approval within 90 days of the time the obligation arises under this section unless the date is otherwise modified, in writing, by the Department.

(f) If the Department determines that the proposed plan is inadequate, the Department may modify the plan and approve the plan as modified or require the submission of an approval modification.

(g) The abatement plan shall be implemented within 60 days of approval by the Department in accordance with the approved implementation schedule.

(h) If, after plan approval or implementation, the Department finds that the plan is incapable of achieving the groundwater protection contemplated in the approval, the Department may do one or more of the following:

(1) Issue an order requiring the operator to submit proposed modifications to the abatement plan.

(2) Issue an order requiring the operator to implement the abatement plan as modified by the Department.

(3) Issue any order as the Department deems necessary to aid in the enforcement of the act.

MINERAL AND GAS

§ 289.281. Mineral resources.

(a) The operator shall isolate coal seams, coal outcrops and coal refuse from combustible waste deposits in a manner that prevents the combustion of the waste and that prevents damage to the liner system.

(b) Mine openings within the site shall be sealed in a manner approved by the Department.

(c) The operator shall implement a plan for controlling potential for damage from subsidence that was submitted and approved under § 289.127 (relating to mineral deposits information).

§ 289.282. Gas control and monitoring.

(a) If the waste disposed at the facility generates, or is likely to generate gas, the operator shall establish and implement a gas control and monitoring program plan under § 289.162 (relating to gas monitoring and control plan).

(b) The operator shall control decomposition gases generated within the site to prevent danger to workers, structures and to occupants of adjacent property.

(c) Gas venting and monitoring systems shall be installed during construction at facilities.

(d) Gas monitoring shall be conducted in accordance with the approved plan. Gas monitoring shall be conducted quarterly by the operator during active operations and after closure until the Department determines in writing that gas monitoring is not necessary to ensure compliance with the act, the environmental protection acts, regulations thereunder and the terms and conditions of the permit.

(e) Combustible gas levels may not equal or exceed:

(1) Twenty-five percent of the lower explosive limit in a structure within the site.

(2) The lower explosive limit at the boundaries of the site.

(f) The operator shall conduct active forced ventilation of the facility, using vents located at least 3 feet above the disposal impoundment surface, if:

(1) Passive venting has caused or may cause violations of subsection (e).

(2) Induced positive gas flows will prevent or control offsite odors.

EMERGENCY PROCEDURES

§ 289.291. Hazard prevention.

Residual waste disposal impoundments shall be designed, constructed, maintained and operated to prevent and minimize the potential for fire, explosion or release of solid waste constituents to the air, water or soil of this Commonwealth that could threaten public health or safety, public welfare or the environment.

§ 289.292. Emergency equipment.

(a) Except as provided in subsection (b), the operator shall have available in proper working condition the following equipment at the immediate operating area of the facility:

(1) An internal communications or alarm system capable of providing immediate emergency instruction by voice or signal to facility personnel.

(2) A communications system capable of summoning emergency assistance from local police, fire departments, emergency medical services and from State and local emergency response agencies.

(3) Portable fire extinguishers, fire control equipment, spill control equipment, self-contained breathing apparatus and decontamination equipment. For fire control equipment requiring water, the facility shall have a water supply of adequate quantity and pressure to supply the equipment.

(4) Portable gas explosimeters and gas monitoring equipment.

(b) The Department may waive or modify one or more of the requirements of subsection (a) in the permit if the operator demonstrates to the Department's satisfaction that the requirements are not necessary to protect public health and safety, public welfare and the environment.

(c) Equipment and material required by this section shall be tested and maintained in a manner that is operable in time of emergency.

(d) Adequate space shall be maintained to allow the unobstructed movement of emergency personnel and equipment to any operating area of the facility.

RECORDKEEPING AND REPORTING

§ 289.301. Daily operational records.

(a) The operator of a facility shall make and maintain an operational record for each day that residual waste is received, processed or disposed, and each day that construction, monitoring or postclosure activity occurs. The operator of a captive residual waste facility may maintain a monthly operational record instead of a daily operational record for each month in which residual waste is received, processed or disposed, and each month that construction, monitoring or postclosure activity occurs. The monthly operational record shall contain the information required in subsection (b)(1)—(6).

(b) The operational record shall include the following:

(1) The type and weight or volume of the solid waste received.

(2) A description of waste handling problems or emergency disposal activities.

(3) A record of deviations from the approved design or operational plans.

(4) A record of activities for which entries are needed to comply with the annual operation report required in § 289.303 (relating to annual operation report).

(5) A record of actions taken to correct violations of the act, the environmental protection acts and this title.

(6) A record of rejected waste loads, the reason for rejecting the loads, and for noncaptive facilities, the name of the transporter and the name, mailing address, county and state of the generator shall also be included.

(7) For noncaptive facilities, the following:

(i) The transporters of the waste.

(ii) The name, mailing address, county and state of each generator of residual waste.

(iii) An analysis of the quality and quantity of leachate flowing from the impoundment into the leachate storage and treatment systems.

(iv) A record of each incident in which radioactive material is detected in waste loads. The record shall include:

(A) The date, time and location of the occurrence.

(B) A brief narrative description of the occurrence.

(C) Specific information on the origin of the material, if known.

(D) A description of the radioactive material involved, if known.

(E) The name, address and telephone numbers of the supplier or handler of the radioactive material and the name of the driver.

(F) The final disposition of the material.

(v) A record of each vehicle, other than a combination that exceeds 73,280 pounds gross weight and of each combination that exceeds 80,000 pounds gross weight.

(A) The record shall include:

(I) The gross weight of the vehicle when weighed at the facility.

(II) The registration plate number and home, or base state registration of the vehicle.

(III) The name, business address and telephone number of the owner of the vehicle.

(IV) The date that the weight scale was last tested in accordance with 3 Pa.C.S. Chapter 41 (relating to the Consolidated Weights and Measures Act).

(V) The date and time when the vehicle was weighed at the facility.

(B) For purposes of this subparagraph, the following terms shall have the following meanings:

(I) *Combination*—Two or more vehicles physically interconnected in tandem. An example of a combination is a truck trailer attached to a semitrailer.

(II) *Gross weight*—The combined weight of a vehicle or combination of vehicles and its load excluding the driver's weight.

(III) *Registration*—The authority for a vehicle to operate on a highway as evidenced by the issuance of an identifying card and plate or plates.

(c) The operator shall maintain accurate operational records sufficient to determine whether residual waste is being stored under Chapter 299, Subchapter A (relating to standards for storage of residual waste).

(d) Daily and monthly operational records shall be retained for the life of the facility bond, or longer if determined by the Department to be necessary to meet the standards of the environmental protection acts. These records shall be made available to the Department upon request.

§ 289.302. (Reserved).

§ 289.303. Annual operation report.

(a) An operator shall submit to the Department an annual operation report on or before June 30 of each year.

(b) The annual operation report, which shall be submitted on a form supplied by the Department, shall include the following information:

(1) The weight or volume of each type of solid waste received. For noncaptive facilities, the report shall include the average daily volume totals computed in accordance with § 289.229 (relating to daily volume).

(2) A volumetric calculation of capacity used in the previous year and remaining permitted capacity.

(3) A description of the acreage used for disposal, the acreage seeded, the acreage that has been vegetated, the acreage where vegetation is permanently established and a narrative of the operator's progress in implementing its closure plan.

(4) A current certificate of insurance as specified in § 287.373(a) (relating to proof of insurance coverage), evidencing continuous coverage for comprehensive general liability insurance as required by § 287.371 (relating to insurance requirement).

(5) Changes in the previous year concerning the information required by §§ 287.124 and 287.125 (relating to identification of interests; and compliance information). The report shall state if no changes have occurred.

(6) A change in the ownership of the land upon which the facility is located or a change in a lease agreement for the use of the land that may affect or alter the operator's rights upon the land.

(7) A written update of the total bond liability for the facility under § 287.331 (relating to bond amount determination). If additional bond is determined to be necessary, it shall be submitted to the Department within 90 days after the annual report is due.

(8) Certification that the operator has received the analysis or certification required by § 287.54 (relating to chemical analysis of waste) for each type of residual waste received at the facility, and that the residual waste that is received at the facility meets the conditions in the facility's permit.

(9) For noncaptive facilities, the type and weight or volume of solid waste received from each generator, including the name, mailing address, county and state of each generator.

(10) A record of detected radioactive materials.

(c) The annual operation report shall be accompanied by a nonrefundable annual permit administration fee of $4,600 in the form of a check payable to the "Commonwealth of Pennsylvania."

(d) The report shall include an evaluation of whether the monitoring plan implemented under this subchapter needs to be revised to comply with § 289.262 (relating to number, location and depth of monitoring points) because of changes in groundwater elevation or other reasons. If this evaluation determines that changes in the approved groundwater monitoring plan are necessary, the operator shall immediately notify the Department and submit an application for permit modification under § 287.222 (relating to permit modification) for necessary changes in the monitoring plan.

§ 289.312. Closure.

(a) The operator shall implement the closure plan approved by the Department under § 289.172 (relating to closure plan).

(b) At least 180 days before implementation of a closure plan, the operator shall review its approved closure plan to determine whether the plan requires modification, and shall submit proposed changes to the Department for approval under § 287.222 (relating to permit modification).

(c) If groundwater degradation exists at closure or occurs after closure, a person shall meet one of the following:

(1) Continue to implement an approved abatement plan.

(2) Submit an application for a closure plan modification in accordance with the procedures for a major permit modification. The operator shall select one or more remediation standards that will be met in accordance with the final closure certification requirements in § 287.342 (relating to final closure certification).

(d) An application for a closure plan modification shall include the following:

(1) Technical information and supporting documentation identifying the remediation activities that will be conducted to meet and maintain the remediation standards.

(2) If a remedy relies on access to or use of properties owned by third parties, for remediation or monitoring, documentation of cooperation or agreement.

Subchapter D. ADDITIONAL REQUIREMENTS FOR CLASS I RESIDUAL WASTE DISPOSAL IMPOUNDMENTS

ADDITIONAL APPLICATION REQUIREMENTS

§ 289.412. Liner system and leachate control plan.

(a) The application shall contain plans, drawings, cross sections and specifications for a liner system to demonstrate compliance with §§ 289.431—289.439 (relating to additional operating requirements—liner system), including the following:

(1) The design of the liner system, including thickness and characteristics of the subbase, the thickness and characteristics of the leachate detection zone, the design for the leachate monitoring system in the leachate detection zone, the nature and thickness of the liner material, the thickness and characteristics of the protective cover and leachate collection zone, and the design for the leachate collection system in the collection zone.

(2) A plan for installing the liner system.

(b) The application shall include a quality assurance and quality control plan for the construction and installation of the liner system. The plan shall include, at a minimum, the following:

(1) A description of the testing procedures and construction methods proposed to be implemented during construction of the liner system.

(2) A description of the manner in which the protective cover and liner system will be maintained and protected in unfilled portions of the disposal area prior to and during initial disposal of solid waste.

(3) A description of the manner in which the protective cover and liner system will be protected from weather prior to and during initial disposal of solid waste.

(4) A description of the qualifications of the quality assurance and quality control personnel, presented in terms of experience and training necessary to implement the plan.

(5) A sampling plan for every component of the liner system, including sample size, methods for determining sample locations, sampling frequency, acceptance and rejection criteria and methods for ensuring that corrective measures are implemented as soon as possible.

(6) A plan for documenting compliance with the quality assurance and quality control plan.

(c) The application shall demonstrate that leachate will not adversely affect the physical or chemical characteristics of the proposed liner system, or inhibit the liner's ability to restrict the flow of solid waste, solid waste constituents or leachate, based on EPA or ASTM guidelines approved by the Department.

(d) The application shall include a complete description of the physical, chemical, mechanical and thermal properties for the proposed primary and secondary liners, based on ASTM methods when appropriate. Except to the extent that the Department waives, in writing, one or more of the following for nonsynthetic secondary liners, these properties shall include, at a minimum:

(1) Thickness.

(2) Tensile strength at yield.

(3) Elongation at yield.

(4) Elongation at break.

(5) Density.

(6) Tear resistance.

(7) Carbon black content.

(8) Puncture resistance.

(9) Seam strength—% of liner strength.

(10) Ultraviolet light resistance.

(11) Carbon black dispersion.

(12) Permeability.

(13) Liner friction.

(14) Stress crack resistance.

(15) Oxidative induction time.

(16) Chemical compatibility.

(17) Percent recycled materials.

ADDITIONAL OPERATING REQUIREMENTS—GENERAL PROVISIONS

§ 289.422. Areas where Class I residual waste disposal impoundments are prohibited.

(a) Except for areas that were permitted prior to July 4, 1992, Class I residual waste disposal impoundments may not be operated:

* * * * *

(4) In coal bearing areas underlain by recoverable or mineable coals unless the permittee owns the underlying coal.

* * * * *

(7) If occupied dwellings are nearby, the following apply:

(i) Except as provided in subparagraphs (ii) and (iii), a residual waste disposal impoundment may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the facility being closer than 300 feet. Except as provided in subparagraphs (ii) and (iii), the disposal area of a residual waste landfill may not be within 500 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the disposal area being closer than 500 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(ii) For a permitted noncaptive residual waste disposal impoundment that was operating and not closed as of

January 13, 2001, an expansion permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless one or both of the following conditions are met:

(A) The owner of the dwelling has provided a written waiver consenting to the facility or disposal area being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(B) The applicant owned or entered into an enforceable option contract to purchase the land on which the expansion would operate on or before January 13, 2001, and still holds the option rights, still owns the land or owns the land pursuant to the option rights contract when the permit expansion is issued. Even if the requirement of this subparagraph is met, the expansion may not be operated within 300 feet measured horizontally from an occupied dwelling and the disposal area may not be within 500 feet measured horizontally from an occupied dwelling.

(iii) A new, noncaptive residual waste disposal impoundment, permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the facility being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner. A closed, noncaptive disposal impoundment that submits an application to reopen and expand shall also be subject to this paragraph.

(iv) Notwithstanding the prohibitions in subparagraphs (ii) and (iii), an access road to a residual waste disposal impoundment may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the access road being closer than 300 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

* * * * *

(10) For disposal, processing and storage areas, within 1/4 mile upgradient, and within 300 feet downgradient, of a private or public water source, except that the Department may waive or modify these isolation distances if the operator demonstrates and the Department finds, in writing, that the following conditions have been met:

(i) The owners of the public and private water sources in the isolation area have consented, in writing, to the location of the proposed facility.

(ii) The operator and each water source owner have agreed, in writing, that the applicant will construct and maintain at the operator's expense a permanent alternative water supply of like quantity and quality at no additional cost to the water source owner if the existing source is adversely affected by the facility.

(iii) The applicant has demonstrated that a replacement water source is technically and economically feasible and readily available for every public or private water source in the isolation area.

(11) If the facility receives or proposes to receive putrescible waste:

(i) Within 10,000 feet—or 3,048 meters—of an airport runway that is or will be used by turbine-powered aircraft during the life of disposal operations under the permit.

(ii) Within 5,000 feet—or 1,524 meters—of an airport runway that is or will be used by piston-type aircraft during the life of disposal operations under the permit.

(iii) For areas permitted on or after January 13, 2001, in a manner in which any portion of the impoundment would be an obstruction to air navigation under 14 CFR 77.23(a)(5) (relating to standards for determining obstructions).

(12) If a school, park or playground is nearby, the following apply:

(i) Except for an expansion of a noncaptive residual waste disposal impoundment permit issued prior to January 13, 2001, for a noncaptive residual waste disposal impoundment permit issued on or after January 13, 2001, within 300 yards of the following:

(A) A building which is owned by a school district or school and used for instructional purposes.

(B) A park.

(C) A playground.

(ii) The current property owner of a school building, park or playground may waive the 300-yard prohibition by signing a written waiver. Upon receipt of the waiver, the Department will waive the 300-yard prohibition and will not use the prohibition as the basis for the denial of a new permit.

(b) The Department may waive or modify one or more of the isolation distances in subsection (a)(1), (5), (7), (8) and (10) for expansions of captive facilities if the operator of the captive facility demonstrates all of the following to the Department's satisfaction:

* * * * *

§ 289.423. Minimum requirements for acceptable waste.

(a) A person or municipality may not dispose of residual waste at a Class I residual waste disposal impoundment unless the waste meets the following criteria:

(1) Neither the residual waste nor leachate from the waste will adversely affect the ability of the liner system to prevent groundwater degradation.

(2) Leachate generated from the residual waste will be treated by the facility's leachate treatment system in accordance with the applicable laws and in a manner that will protect public health, safety and the environment.

(3) The residual waste will not react, combine or otherwise interact with other waste that is or will be disposed at the facility in a manner that will adversely affect the ability of the liner system to prevent groundwater pollution.

(4) The residual waste may not be allowed to react, combine or otherwise interact with other waste or materials to endanger public health, safety and welfare or the environment by generating extreme heat or pressure, fire or explosion, or toxic mists, fumes, dusts or vapors. The potential for this interaction shall be determined using the procedure set forth in the EPA's "*A Method for Determining the Compatibility of Hazardous Wastes*" (EPA-600/2-80-076)—available through the Department or the National Technical Information Service (NTIS) United States Department of Commerce, Springfield, VA 22161—or another equivalent method approved by the Department in the permit.

(5) The physical characteristics of the waste will not cause or contribute to structural instability or other operating problems at the site.

(b) A person or municipality may not store or dispose of municipal waste or special handling waste at a Class I residual waste disposal impoundment.

(c) A person or municipality may not dispose of hazardous waste at a Class I residual waste disposal impoundment unless the following are met:

(1) Disposal of the waste at a residual waste disposal impoundment is authorized by Article VII (relating to hazardous waste management).

(2) The Department approves of the disposal of the waste at the residual waste disposal impoundment in the permit.

(d) A person or municipality may not dispose of solid waste at a Class I residual waste disposal impoundment if the Toxic Substances Control Act (15 U.S.C.A. §§ 2601—2629) prohibits the disposal of the solid waste at the residual waste disposal impoundment.

ADDITIONAL OPERATING REQUIREMENTS—LINER SYSTEM

§ 289.432. General limitations.

(a) The bottom of the subbase of the liner system cannot be in contact with the seasonal high water table or perched water table without the use of groundwater pumping systems.

(1) Soil mottling may indicate the presence of a seasonal high water table.

(2) Drainage systems may be utilized to prevent contact between the bottom of the subbase of the liner system and the seasonal high water table or perched water table. The operator may not use a drainage system if the system is likely to adversely affect the quality or quantity of water provided by a public or private water supply, even if a replacement supply is available under § 289.255 (relating to water supply replacement). The drainage system shall be limited to drain tile, piping, french drains or equivalent methods.

(b) For unconfined aquifers, at least 8 feet shall be maintained between the bottom of the subbase of the liner system and the regional groundwater table. The regional groundwater table may not be artificially lowered.

(c) For confined aquifers, at least 8 feet shall be maintained between the bottom of the subbase of the liner system and the top of the confining layer or the shallowest level below the bottom of the subbase where groundwater occurs as a result of upward leakage from natural or other preexisting causes. The integrity of the confining layer may not be compromised by excavation.

(d) If the approved design plans provide for the placement of additional adjacent liner:

(1) Waste may not be placed within 25 feet of an edge of the liner.

(2) The edge of the liner shall be protected by approved soil cover, or another material approved in the permit, until additional liner is added.

(e) If the approved design plans do not provide for the placement of additional adjacent liner, waste may not be placed within 4 feet of an edge of the liner.

(f) The edge of the liner shall be clearly marked.

§ 289.433. Subbase.

(a) The subbase shall meet the following performance standards. The subbase shall:

(1) Bear the weight of the liner system, waste, waste cover material and equipment operating on the facility without causing or allowing a failure of the liner system.

(2) Accommodate potential settlement without damage to the liner system.

(3) Be a barrier to the transmission of liquids.

(4) Cover the bottom and sidewalls of the facility.

(b) Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the subbase shall meet the following design requirements. The subbase shall:

(1) Consist of an upper 6 inches that is:

(i) Compacted to a standard proctor density of at least 95%.

(ii) No more permeable than 1.0×10^{-5} cm/sec., based on laboratory and field testing, unless the clay component of a composite liner is located directly above the subbase.

(iii) Hard, uniform, smooth and free of debris, rock fragments, plant materials and other foreign material.

(2) Have a postsettlement slope of at least 2% and no more than 33%.

§ 289.434. Secondary liner.

(a) *Requirements.* The secondary liner shall meet the following requirements:

(1) The secondary liner shall prevent the migration of leachate through the liner to the greatest degree that is technologically possible.

(2) The effectiveness of the secondary liner in preventing the migration of leachate may not be adversely affected by the physical or chemical characteristics of solid waste, solid waste constituents or leachate from the facility.

(3) The secondary liner shall be resistant to physical failure, chemical failure and other failure from the sources identified under § 289.412(d) (relating to liner system and leachate control plan).

(4) The secondary liner shall cover the bottom and sidewalls of the facility.

(b) *Design requirements.* Unless alternative design requirements to meet the performance standards in subsection (a) as part of the permit under § 287.231 (relating to equivalency review procedure) are approved, the secondary liner shall meet, at the minimum, the requirements of Appendix A, Table I (relating to minimum liner design standards).

(c) *Construction requirements.* A secondary liner shall:

(1) Be no more permeable than 1.0×10^{-7} cm/sec., based on laboratory testing. For nonsynthetic liners, field testing shall also be conducted.

(2) Be installed, if the liner is synthetic, according to manufacturer's specifications under the supervision of an authorized representative of the manufacturer. An approved quality assurance and quality control plan shall be implemented in the field during the installation of the liner.

(3) Be designed, installed and maintained, if the liner is remolded clay, according to a quality assurance and quality control plan approved by the Department.

(4) Be inspected for uniformity, damage and imperfections during construction and installation.

(d) *Compacted lifts*. Secondary liners made of clay, bentonite and bentonite-like materials shall be constructed in compacted lifts not exceeding 6 inches in depth. A lift shall be scarified before placement of the next lift.

(e) *Composite secondary liners*.

(1) If the operator does not design, construct, operate and maintain a composite primary liner, the operator shall design, construct, operate and maintain a composite secondary liner which has the following:

(i) An upper component made of a manufactured geosynthetic liner that meets the requirements of this section independently of the composite component.

(ii) A composite component made of earthen material that meets the requirements of this section independently of the upper component, except that the composite component may not be more permeable than 1.0×10^{-6} cm/sec., based on laboratory and field testing.

(2) The two components of the composite liner shall be designed, constructed and maintained to provide a compression connection, or direct continuous contact, between them.

(3) Use of a composite secondary liner does not relieve the operator of responsibility for a separate primary liner under § 289.436 (relating to primary liner).

(f) *Natural attenuation prohibited*. A facility or a component thereof that is subject to this section may not have a secondary liner based upon natural attenuation of leachate.

§ 289.435. Leachate detection zone.

(a) The leachate detection zone shall meet the following performance standards. The leachate detection zone shall:

(1) Rapidly detect and collect liquid entering the leachate detection zone, and rapidly transmit the liquid to the leachate treatment system.

(2) Withstand chemical attack from waste or leachate.

(3) Withstand anticipated loads, stresses and disturbances from overlying waste, waste cover materials and equipment operation.

(4) Function without clogging.

(5) Prevent the liner from puncturing, cracking, tearing, stretching or otherwise losing its physical integrity.

(6) Cover the bottom and sidewalls of the facility.

(b) Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the leachate detection zone of a liner system shall meet the following design requirements. The leachate detection zone shall:

(1) Be at least 12 inches thick.

(2) Contain no material exceeding 0.5 inches in particle size.

(3) Create a flow zone between the secondary liner and the primary liner equal to, or more permeable, than 1.0×10^{-2} cm/sec., based on a laboratory testing and, when required by the Department, field testing.

(4) Contain a perforated piping system capable of detecting and intercepting liquid within the leachate detection zone and conveying the liquid to a collection sump for storage, processing or disposal. The sump shall be separate from the leachate collection sump, and shall be of a sufficient size to transmit leachate that is generated.

(5) The piping system shall also meet the following requirements:

(i) The slope, size and spacing of the piping system shall assure that liquids drain from the leachate detection zone.

(ii) The pipes shall be installed primarily perpendicular to the flow and shall have a minimum postsettlement grade of at least 2%.

(iii) The minimum diameter of the perforated pipe shall be 4 inches with a wall thickness of Schedule-80 or greater, as specified by ASTM, or equivalent.

(iv) The pipes shall be cleaned and maintained as necessary.

(6) The leachate detection zone shall have a minimum bottom slope of 2%.

(7) Contain noncarbonate stones or aggregate with no sharp edges.

(c) The operator shall monitor the leachate detection zone weekly to determine whether liquid is flowing from the zone.

(d) If liquid is flowing from the leachate detection zone, the operator shall immediately do the following:

(1) Notify the Department in writing.

(2) Estimate on a weekly basis, the volume of liquid flowing from the zone.

(3) Sample and analyze the liquid quarterly, unless a more frequent basis is required by the Department, for pH, specific conductivity, total organic carbon, chlorides and other parameters specified in the permit. The Department may also require sampling and analysis for other constituents expected to be found in the waste.

(4) Provide written copies of flow and analysis data to the Department.

(e) If leachate flow is greater than 100 gallons per acre of lined collection area per day, or more than 10% of leachate generation, the operator shall:

(1) Submit to the Department within 30 days a plan for locating the source of leachate in the leachate detection zone, and for determining the severity and cause of leachate penetration.

(2) Implement the plan upon Department approval, and complete the plan in a reasonable time not to exceed 6 months.

(3) Submit to the Department within 45 days after completion of the plan a report containing the new data collected, analysis of the data and recommendations concerning a remedial plan.

(4) Conduct quarterly sampling and analysis for the parameters in § 289.264(a)(1) (relating to sampling and analysis), and submit copies of the results of the analysis to the Department.

(f) If sampling results indicate the presence of constituents at concentrations that could result in groundwater degradation at a monitoring well, the operator shall:

(1) Submit a remedial plan for controlling the source of leachate in the leachate detection zone and correcting a malfunction or defect in the liner system, and implement the plan upon Department approval.

(2) Submit a permit modification application under § 287.222 (relating to permit modification) for increased groundwater monitoring, giving consideration to monitoring frequency, number of wells and other factors, and conduct increased groundwater monitoring upon Department approval of the application.

§ 289.436. Primary liner.

(a) *Requirements*. The primary liner shall meet the following requirements:

(1) The primary liner shall prevent the migration of leachate through the liner to the greatest degree that is technologically possible.

(2) The effectiveness of the primary liner in preventing the migration of leachate may not be adversely affected by the physical or chemical characteristics of solid waste, solid waste constituents or leachate from the facility.

(3) The primary liner shall be resistant to physical failure, chemical failure and other failure from the properties identified under § 289.161 (relating to impoundment plan).

(4) The primary liner shall cover the bottom and sidewalls of the facility.

(b) *Design requirements*. Unless alternative design standards to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the primary liner shall meet, at the minimum, the requirements of Appendix A, Table I (relating to minimum liner design standards).

(c) *Specifications*. A primary liner shall be:

(1) No more permeable than 1.0×10^{-7} cm/sec., based on laboratory testing.

(2) Installed, if the liners are synthetic, according to the manufacturer's specifications under the supervision of an authorized representative of the manufacturer. The approved quality control program shall be implemented in the field during the installation of the liner.

(3) Inspected for uniformity, damage and imperfections during construction or installation.

(d) *Composite primary liner*.

(1) If the operator does not design, construct, operate and maintain a composite secondary liner, the operator shall design, construct, operate and maintain a composite primary liner which has the following characteristics:

(i) An upper component made of a manufactured geosynthetic liner that meets the requirements of this section independently of the composite component.

(ii) A composite component made of earthen material that meets the requirement of § 289.434 (relating to secondary liner) independently of the upper component, except that the composite component may not be more permeable than 1.0×10^{-6} cm/sec., based on laboratory and field testing.

(2) The two components of the composite liner shall be designed, constructed and maintained to provide a compression connection, or direct continuous contact between them.

(3) The use of a composite primary liner does not relieve the operator of responsibility for a separate secondary liner under § 289.434.

(e) *Clay or earthen material prohibited*. Except as provided in subsection (d), a facility or component thereof that is subject to this section may not have a primary liner made of clay or earthen material or a primary liner based upon natural attenuation of leachate.

§ 289.438. Leachate collection system within protective cover.

(a) The leachate collection system within the protective cover shall meet the following performance standards. The leachate collection system shall:

(1) Ensure that free flowing liquids and leachate will drain continuously from the protective cover to the leachate treatment system.

(2) Withstand chemical attack from leachate.

(3) Withstand anticipated loads, stresses and disturbances from overlying waste, waste cover materials and equipment operation.

(4) Function without clogging.

(5) Cover the bottom and sidewalls of the facility.

(b) Unless alternative design requirements to the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the leachate collection system with the protective cover shall comply with the following design requirements.

(1) The leachate collection system shall include a perforated piping system which is capable of intercepting free flowing liquids and leachate within the protective cover and conveying them to a collection sump for storage, processing or disposal. The collection sump shall be of a sufficient size to transmit leachate that is generated and shall be capable of automatic and continuous functioning.

(2) The perforated piping system shall be sloped, sized and spaced to assure that free flowing liquids and leachate will drain continuously from the protective cover to the collection sump or point.

(3) The minimum diameter of the perforated pipes shall be 6 inches with a wall thickness of Schedule-80 or greater as specified by ASTM, or equivalent.

(4) The leachate collection system shall contain stones or aggregates.

(5) The pipes shall be installed primarily perpendicular to the flow and shall have a minimum postsettlement grade of at least 2%.

(6) The leachate collection system shall be cleaned and maintained as necessary.

(7) The leachate collection system shall have a minimum bottom slope of 2%.

(c) The Department may, in the permit, authorize the operator to delay activation of the leachate collection system until closure if the following are met:

(1) The impoundment is designed so that liquid covers waste during the active life of the facility.

(2) Wastes disposed at the impoundment are free draining.

(3) Solidification is solely dependent on gravity drainage.

(4) Test data or historical information, or both, from impoundments that received similar wastes show that the requirements of § 289.212(b) (relating to waste solidification) will be met 2 years after waste disposal ceases.

ADDITIONAL OPERATING REQUIREMENTS—LEACHATE TREATMENT

§ 289.454. Leachate recirculation.

(a) In conjunction with the treatment methods in §§ 289.452 and 289.453 (relating to basic treatment methods; and leachate transportation), recirculation of leachate generated at the facility may be utilized if the following exist:

(1) The area subject to leachate recirculation previously has been filled with solid waste.

(2) There is sufficient residual waste capacity to absorb the leachate.

(3) The area subject to leachate recirculation is underlain by a leachate collection system.

(4) Leachate recirculation is conducted with an approved piping system located under the intermediate cover, and causes no odors, runoff or ponding.

(5) The leachate is not a hazardous waste.

(6) The leachate will not interfere with the solidification of waste at the impoundment.

(b) An alternate leachate recirculation method may be used if approved by the Department.

§ 289.455. Leachate collection and storage.

(a) Impoundments or tanks for storing leachate before or during treatment shall be constructed in accordance with §§ 299.122, 299.142 and 299.145 (relating to storage tanks; general requirements; and failure).

(b) An onsite leachate storage system shall be part of each leachate treatment method used by the operator. The storage system shall contain impoundments or tanks for storage of leachate. For noncaptive facilities, the tanks or impoundments shall have a storage capacity at least equal to the maximum expected production of leachate for a 30-day period for the life of the facility estimated under § 289.413 (relating to leachate treatment plan). For captive facilities, the tank or impoundment shall have sufficient storage capacity to ensure proper operation of the treatment facility in accordance with the approved leachate treatment plan and shall meet the performance standard in § 289.438(a)(1) (relating to leachate collection system within protective cover). No more than 25% of the total leachate storage capacity may be used for flow equalization on a regular basis.

(c) The impoundments or tanks shall be aerated as necessary to prevent and control odors. Impoundments or tanks shall each have a capacity of at least 250,000 gallons, unless otherwise approved by the Department.

(d) The storage capacity of impoundments and tanks at a site shall be increased, if additional storage is required, prior to each major phase of construction and as otherwise necessary.

(e) Leachate storage capacity may not be considered to include leachate that may have collected in or on the liner system.

(f) Necessary collection and containment systems shall be installed prior to the deposition of solid waste at the site. The leachate treatment or handling system approved by the Department under § 289.413 shall be installed or ready for use prior to the storage or disposal of solid waste at the site.

(g) For areas permitted after January 13, 2001, all underground pipes used for the transport of leachate from the liner system to the leachate storage impoundments or tanks shall be equipped with secondary containment or comply with the requirements in § 245.445 (relating to methods for release detection for piping). Secondary containment shall be designed, constructed and installed to direct any release to an area that can be inspected for leaks.

§ 289.456. Leachate analysis and sludge handling.

(a) Upon commencement of leachate flow from the facility, the operator shall sample, analyze and maintain a record of the following:

(1) On a daily basis, the average flow rate and volume of leachate flowing from the disposal impoundment into the leachate storage and treatment system.

(2) On a quarterly basis unless otherwise provided in the permit, the chemical composition of leachate flowing into the leachate treatment system. The analysis shall be sufficient to determine the impact of leachate on the liner system, the effectiveness of the leachate treatment system, the need for modification of the groundwater monitoring system or the effluent limitations in an NPDES permit and the actual characteristics of leachate from the waste disposed at the facility. For the purpose of this analysis, the leachate sample shall be collected from the influent storage tank or impoundment and shall be representative of the average mixed influent leachate quality.

(b) Sludges resulting from the treatment of leachate may be disposed at the facility if the sludges are not hazardous under Article VII (relating to hazardous waste management).

Subchapter E. ADDITIONAL REQUIREMENTS FOR CLASS II RESIDUAL WASTE DISPOSAL IMPOUNDMENTS

ADDITIONAL APPLICATION REQUIREMENTS

§ 289.512. Liner system and leachate control plan.

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(c) The application shall demonstrate that leachate will not adversely affect the physical or chemical characteristics of the proposed liner system, or inhibit the liner's ability to restrict the flow of solid waste, solid waste constituents or leachate based on EPA or ASTM guidelines approved by the Department.

(d) The application shall include a complete description of the physical, chemical, mechanical and thermal properties for the proposed liner, based on ASTM methods when appropriate. These properties shall include, at a minimum:

(1) Thickness.

(2) Tensile strength at yield.

(3) Elongation at yield.

(4) Elongation at break.

(5) Density.

(6) Tear resistance.

(7) Carbon black content.

(8) Puncture resistance.

(9) Seam strength—% of liner strength.

(10) Ultraviolet light resistance.

(11) Carbon black dispersion.

(12) Permeability.

(13) Liner friction.

(14) Stress crack resistance.

(15) Oxidative induction time.

(16) Chemical compatibility.

(17) Percent recycled materials.

ADDITIONAL OPERATING REQUIREMENTS—GENERAL

§ 289.522. Areas where Class II residual waste disposal impoundments are prohibited.

(a) Except for areas that were permitted prior to July 4, 1992, Class II residual waste disposal impoundments may not be operated as follows:

* * * * *

(4) In coal bearing areas underlain by recoverable or mineable coals, unless the permittee owns the underlying coal.

* * * * *

(7) If occupied dwellings are nearby, the following apply:

(i) Except as provided in subparagraphs (ii) and (iii), a residual waste disposal impoundment may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the facility being closer than 300 feet. Except as provided in subsections (ii) and (iii), the disposal area of a residual waste landfill may not be within 500 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the disposal area being closer than 500 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(ii) For a permitted noncaptive residual waste disposal impoundment that was operating and not closed as of January 13, 2001, an expansion permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless one or both of the following conditions are met:

(A) The owner of the dwelling has provided a written waiver consenting to the facility or disposal area being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(B) The applicant owned or entered into an enforceable option contract to purchase the land on which the expansion would operate on or before January 13, 2001, and still holds the option rights, still owns the land or owns the land pursuant to the option rights contract when the permit expansion is issued. Even if the requirement of this subparagraph is met, the expansion may not be operated within 300 feet measured horizontally from an occupied dwelling and the disposal area may not be within 500 feet measured horizontally from an occupied dwelling.

(iii) A new, noncaptive residual waste disposal impoundment, permitted on or after January 13, 2001, may not be operated within 900 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the facility being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner. A closed, noncaptive disposal impoundment that submits an application to reopen and expand shall also be subject to this paragraph.

(iv) Notwithstanding the prohibitions in subparagraphs (ii) and (iii), an access road to a residual waste disposal impoundment may not be operated within 300 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the access road being closer than 300 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

* * * * *

(10) For disposal, processing and storage areas, within 1/4 mile upgradient, and within 300 feet downgradient, of a private or public water source, except that the Department may waive or modify these isolation distances if the operator demonstrates and the Department finds, in writing, that the following conditions have been met:

(i) The owners of the public and private water sources in the isolation area have consented, in writing, to the location of the proposed facility.

(ii) The operator and each water source owner have agreed, in writing, that the applicant will construct and maintain at the operator's expense a permanent alternative water supply of like quantity and quality at no additional cost to the water source owner if the existing source is adversely affected by the facility.

(iii) The applicant has demonstrated that a replacement water source is technically and economically feasible and readily available for every public or private water source in the isolation area.

(11) If the facility receives or proposes to receive putrescible waste:

(i) Within 10,000 feet—or 3,048 meters—of an airport runway that is or will be used by turbine-powered aircraft during the life of disposal operations under the permit.

(ii) Within 5,000 feet—or 1,524 meters—of an airport runway that is or will be used by piston-type aircraft during the life of disposal operations under the permit.

* * * * *

(iii) For areas permitted on or after January 13, 2001, in a manner in which any portion of the impoundment would be an obstruction to air navigation under 14 CFR 77.23(a)(5) (relating to standards for determining obstructions).

(12) If a school, park or playground is nearby, the following apply:

(i) Except for an expansion of a noncaptive residual waste disposal impoundment permit issued prior to January 13, 2001, for a noncaptive residual waste disposal impoundment permit issued on or after January 13, 2001, within 300 yards of the following:

(A) A building which is owned by a school district or school and used for instructional purposes.

(B) A park.

(C) A playground.

(ii) The current property owner of a school building, park or playground may waive the 300-yard prohibition by signing a written waiver. Upon receipt of the waiver, the Department will waive the 300-yard prohibition and will not use the prohibition as the basis for the denial of a new permit.

(b) The Department may waive or modify one or more of the isolation distances in subsection (a)(1), (5), (7), (8)

and (10) for expansions of captive facilities if the operator of the captive facility demonstrates the following to the Department's satisfaction:

(1) The captive facility was permitted prior to July 4, 1992, or was permitted after July 4, 1992, if the Department determined the permit application for the facility to be administratively complete prior to July 4, 1992.

(2) The captive facility routinely and regularly disposed of residual waste on and after the effective date of these regulations.

(3) The expansion of the captive facility solely includes land which is contiguous to the captive facility.

(4) The expansion of the captive facility solely includes land which is owned by the applicant on July 4, 1992.

(5) No other site is available on contiguous land for the expansion of the captive facility.

(6) The expansion of the captive facility will be designed and operated to ensure that the facility does not harm public health, safety, welfare or the environment.

* * * * *

§ 289.523. Minimum requirements for acceptable waste.

(a) A person or municipality may not dispose of residual waste at a Class II residual waste disposal impoundment unless the waste meets the following criteria:

(1) The residual waste may not be of a type from which the maximum concentration obtained for a contaminant, based on a chemical analysis of its leachate submitted under § 287.132 (relating to chemical analysis of waste), and approved by the Department, exceeds 50 times the waste classification standard for that contaminant. If analytical quantification limits prevent determination of the acceptability of a residual waste under this paragraph, the Department may consider the total analysis of the waste as well as the physical and chemical characteristics of the contaminant in making a determination of acceptability of the waste at the facility.

(2) Notwithstanding the limitation in paragraph (1), the Department may authorize the disposal of residual waste at a monofill if the waste is of a type from which the maximum concentration obtained for a contaminant, based on a chemical analysis of its leachate submitted under § 287.132, exceeds 50 times the SMCL for that contaminant if the SMCL is the waste classification standard for the contaminant. The Department may authorize the disposal of the waste only upon a demonstration that disposal of the waste at the facility will not cause groundwater degradation that exceeds the SMCL for a contaminant at a monitoring point or groundwater degradation that exceeds background levels at the property boundary for the contaminant.

* * * * *

(4) The Department may authorize a facility which disposes of a waste in accordance with a permit under this article to continue to dispose of the waste at the facility although a waste classification standard for a contaminant has been changed so that the waste would no longer meet the criteria for disposal of the waste at the facility under paragraph (1), if the operator of the facility demonstrates to the Department's satisfaction that disposal of the waste will not cause groundwater degradation that exceeds the waste classification standard for a contaminant at a monitoring point or groundwater degradation that exceeds background levels at the property boundary for a contaminant.

* * * * *

(11) The physical characteristics of the waste will not cause or contribute to structural instability or other operating problems at the site.

* * * * *

ADDITIONAL OPERATING REQUIREMENTS—LINER SYSTEM

§ 289.532. General limitations.

(a) The bottom of the subbase of the liner system cannot be in contact with the seasonal high table or perched water table without the use of groundwater pumping systems.

(1) Soil mottling may indicate the presence of a seasonal high water table.

(2) Drainage systems may be utilized to prevent contact between the bottom of the subbase of the liner system and the seasonal high water table or perched water table. The operator may not use a drainage system if the system is likely to adversely affect the quality or quantity of water provided by a public or private water supply, even if a replacement supply is available under § 289.255 (relating to water supply replacement). The drainage system shall be limited to drain tile, piping, french drains or equivalent methods.

(b) For unconfined aquifers, at least 8 feet shall be maintained between the bottom of the subbase of the liner system and the regional groundwater table. The regional groundwater table may not be artificially lowered.

(c) For confined aquifers, at least 8 feet shall be maintained between the bottom of the subbase of the liner system and the top of the confining layer or the shallowest level below the bottom of the subbase where groundwater occurs as a result of upward leakage from natural or other preexisting causes. The integrity of the confining layer may not be compromised by excavation.

(d) If the approved design plans provide for the placement of an additional adjacent liner, the following apply:

(1) Waste may not be placed within 25 feet of an edge of the liner.

(2) The edge of the liner shall be protected by approved soil cover, or another material approved in the permit, until additional liner is added.

(e) If the approved design plans do not provide for the placement of additional adjacent liner, waste may not be placed within 4 feet of an edge of the liner.

(f) The edge of the liner shall be clearly marked.

§ 289.534. Leachate detection zone.

* * * * *

(b) Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the leachate detection zone of a liner system shall meet the following design requirements. The leachate detection zone shall:

* * * * *

(4) Contain a perforated piping system capable of detecting and intercepting liquid within the leachate detection zone and conveying the liquid to a collection sump for storage, processing or disposal. The sump shall be separate from the leachate collection sump and shall

be of a sufficient size to transmit leachate that is generated. The piping system shall also meet the following requirements:

(i) The slope, size and spacing of the piping system shall assure that liquids drain from the leachate detection zone.

(ii) The pipes shall be installed primarily perpendicular to the flow and shall have a minimum postsettlement grade of at least 2%.

(iii) The minimum diameter of the perforated pipe shall be 4 inches with a wall thickness of Schedule-80 or greater as specified by ASTM or equivalent.

(iv) The pipes shall be cleaned and maintained as necessary.

* * * * *

(e) If leachate flow is greater than 100 gallons per acre of lined collection area per day, or more than 10% of leachate generation the operator shall do the following:

* * * * *

(f) If sampling results indicate the presence of constituents at concentrations that could result in groundwater degradation, the operator shall submit the following to the Department:

(1) A remedial plan for controlling the source of leachate in the leachate detection zone and correcting a malfunction or defect in that liner system, and implement the plan upon Department approval.

* * * * *

§ 289.535. Liner.

* * * * *

(b) *Alternative design requirements.* Unless alternative design requirements to meet the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the liner shall meet, at the minimum, the requirements of Appendix A, Table II (relating to minimum liner design standards).

(c) *Requirements.* A liner shall meet the following standards. A liner shall include:

(1) An upper component made of a manufactured geosynthetic liner that meets the following requirements independently of the composite component:

* * * * *

(2) A composite component made of earthen material that meets the following requirements independent of the upper component:

(i) The composite component is no more permeable than 1.0×10^{-6} cm/sec., based on laboratory testing and field testing.

(ii) The composite component is designed, installed and maintained according to a quality assurance and quality control plan approved by the Department.

(iii) The composite component is inspected for uniformity, damage and imperfections during construction and installation.

(iv) The composite component shall be constructed in compacted lifts not exceeding 6 inches in depth. A lift shall be scarified before placement of the next lift.

* * * * *

§ 289.537. Leachate collection system within protective cover.

* * * * *

(b) Unless alternative design requirements to the performance standards in subsection (a) are approved as part of the permit under § 287.231 (relating to equivalency review procedure), the leachate collection system with the protective cover shall comply with the following design requirements.

* * * * *

(4) The leachate collection system shall contain stones or aggregates.

* * * * *

ADDITIONAL OPERATING REQUIREMENTS—LEACHATE TREATMENT

§ 289.554. Leachate recirculation.

(a) In conjunction with the treatment methods in §§ 289.552 and 289.553 (relating to basic treatment methods; and leachate transportation), recirculation of leachate generated at the facility may be utilized if the following conditions exist:

(1) The area subject to leachate recirculation previously has been filled with solid waste.

(2) There is sufficient residual waste capacity to absorb the leachate.

(3) The area subject to leachate recirculation is underlain by a leachate collection system.

(4) Leachate recirculation is conducted with an approved piping system located under the intermediate cover, and causes no odors, runoff or ponding.

(5) The leachate is not a hazardous waste.

(6) The leachate will not interfere with the solidification of waste at the impoundment.

(b) An alternate leachate recirculation method may be used if approved by the Department.

§ 289.555. Leachate collection and storage.

(a) Impoundments or tanks for storing leachate before or during treatment shall be constructed in accordance with §§ 299.122, 299.142 and 299.145 (relating to storage tanks; general requirements; and failure).

(b) An onsite leachate storage system shall be part of each leachate treatment method used by the operator. The storage system shall contain impoundments or tanks for storage of leachate. For noncaptive facilities, the tanks or impoundments shall have a storage capacity at least equal to the maximum expected production of leachate for a 30-day period for the life of the facility estimated under § 289.513 (relating to leachate treatment plan). For captive facilities, the tank or impoundment shall have sufficient storage capacity to ensure proper operation of the treatment facility in accordance with the approved leachate treatment plan and shall meet the performance standards in § 289.537(a)(1) (relating to leachate collection system within protective cover). No more than 25% of the total leachate storage capacity may be used for flow equalization on a regular basis.

(c) The impoundments or tanks shall be aerated as necessary to prevent and control odors. Impoundments or tanks shall each have a capacity of at least 250,000 gallons, unless otherwise approved by the Department.

(d) The storage capacity of impoundments and tanks at a site shall be increased, if additional storage is required, prior to each major phase of construction and as otherwise necessary.

(e) Leachate storage capacity may not be considered to include leachate that may have collected in or on the liner system.

(f) Necessary collection and containment systems shall be installed prior to the deposition of solid waste at the site. A leachate treatment or handling system approved by the Department under § 289.513 shall be installed or ready for use prior to the storage or disposal of solid waste at the site.

(g) For areas permitted after January 13, 2001, all underground pipes used for the transport of leachate from the liner system to the leachate storage impoundments or tanks shall be equipped with secondary containment or comply with § 245.445 (relating to methods for release detection for piping). Secondary containment shall be designed, constructed and installed to direct any release to an area that can be inspected for leaks.

APPENDIX A

TABLE I

MINIMUM LINER DESIGN STANDARDS

Liner Material	*Function*	*Minimum Field Thickness (Units as Specified)*	*Liner Density (Tests as Specified)*	*Remarks*
Geosynthetics	Primary or Secondary Liner	30 mil	N/A	1. A greater thickness may be required depending upon the recommendations of the manufacturer. HDPE liners shall be at least 60 mil.
Geosynthetics	Cap	30 mil	N/A	1. A greater thickness may be required depending upon the recommendations of the manufacturer.
Natural & Remolded Clay	Secondary Liner, Cap, Composite Component	2 feet 2 feet 1 foot	>=90%* >=90%* >=90%*	1. Minimum of 30% fines by weight less than 0.074 mm particle size (#200 sieve). 2. Plasticity Index greater than or equal to 10. 3. No coarse fragments greater than 3/4 inch in diameter.
Sodium bentonite & Bentonite-like materials/soil mixtures	Secondary Liner, Cap, Composite Component	2 feet 2 feet 1 foot	>=90%* >=90%* >=90%*	1. Minimum of 8% powdered sodium bentonite or manufacturer's recommendations, whichever is greater. 2. No coarse fragments greater than 3/4 inch in diameter. 3. No organic matter. 4. Coarse fragment content (those materials greater than 4.76 mm. in diameter) shall not exceed 10% by weight.
Geosynthetic clay liner (GCL)	Composite Component	N/A	N/A	1. Minimum of 3/4 pound of powdered or granular sodium bentonite per square foot.

* Percentage of maximum when using Standard Proctor method of design (Pa. PTM No. 106, Method B).

TABLE II

MINIMUM LINER DESIGN STANDARDS

Liner Material	*Function*	*Minimum Field Thickness (Units as Specified)*	*Liner Density (Tests as Specified)*	*Remarks*
Geosynthetics	Liner Cap	30 mil	N/A	1. A greater thickness may be required depending upon the recommendations of the manufacturer. HDPE liners shall be at least 60 mil.

Liner Material	*Function*	*Minimum Field Thickness (Units as Specified)*	*Liner Density (Tests as Specified)*	*Remarks*
Natural & Remolded Clay	Cap, Composite Component	2 feet 1 foot	>=90%* >=90%*	1. Minimum of 30% fines by weight less than 0.074 mm particle size (#200 sieve). 2. Plasticity Index greater than or equal to 10. 3. No coarse fragments greater than 3/4 inch in diameter.
Sodium bentonite & Bentonite-like materials/soil mixtures	Cap, Composite Component	2 feet 1 foot	>=90%* >=90%*	1. Minimum of 8% powdered sodium bentonite or manufacturer's recommendations, whichever is greater. 2. No coarse fragments greater than 3/4 inch in diameter. 3. No organic matter. 4. Coarse fragment content (those materials greater than 4.76 mm. in diameter), shall not exceed 10% by weight.
Geosynthetic Clay Liner (GCL)	Composite Component	N/A	N/A	1. Minimum of 3/4 pound of powdered or granular sodium bentonite per square foot.

* Percentage of maximum when using Standard Proctor method of design (Pa. PTM No. 106, Method B).

CHAPTER 291. LAND APPLICATION OF RESIDUAL WASTE

Subchapter B. GENERAL APPLICATION REQUIREMENTS FOR THE LAND APPLICATION OF RESIDUAL WASTE

§ 291.101. General.

(a) An application for the land application of residual waste shall:

(1) Comply with this subchapter.

(2) Comply with the additional application requirements that are specifically applicable to the particular type of operation that is proposed.

(3) Comply with the applicable requirements of Chapter 287 (relating to residual waste management—general provisions).

(4) Be considered an application for agricultural utilization or land reclamation.

(b) An application shall demonstrate how the applicant plans to comply with Subchapter C (relating to general operating requirements for the land application of residual waste), as well as additional operating requirements in this chapter that are specifically applicable to the particular type of operation that is proposed.

§ 291.102. Operating plan.

An application shall contain a narrative description explaining the following:

(1) Whether the proposed operation is for agricultural utilization or land reclamation of residual waste.

(2) The general operating plan for the proposed operation, including the proposed life of the operation, and the origin and weight or volume of residual waste that is proposed to be applied during the operation.

(3) The proposed application rate per acre, which shall be consistent with the applicable Departmental guidelines for the proposed operation, and the dates when the applicant proposes to apply residual waste.

(4) An analysis of the effect of the proposed operation and loading rates over the lifetime of the facility on air, water, vegetation and other natural resources.

(5) The method by which residual waste will be applied and incorporated into soil.

(6) The equipment to be used for site preparation, land application of residual waste, residual waste incorporation into the soil when incorporation is required, and seeding.

(7) The use that will be made of the proposed permit area after residual waste application has permanently ceased.

(8) The nuisance control plan to prevent health hazards or nuisances.

§ 291.103. Maps and related information.

(a) An application shall contain a topographic map on a scale in which 1 inch equals no more than 400 feet, including necessary narrative descriptions, which show the following:

(1) The boundaries and the names of the present owners of record of the land, including easements, rights-of-way and other property interests, for the proposed permit area and adjacent areas; and a description of all title, deed or usage restrictions affecting the proposed permit area.

(2) The boundaries and the names of the present owners for the proposed permit area and adjacent area.

(3) The boundaries of the land where residual waste will be applied over the estimated total life of the proposed operation, including the boundaries of land that will be affected in each sequence of land application activity.

(4) The boundaries of land where residual waste will be stored at various times over the estimated total life of the proposed operation.

(5) The location and name of public and private water sources and wells within the isolation distances in

§ 291.202 (relating to areas where the land application of residual waste is prohibited).

(6) Municipalities in which the permit area is proposed to be located.

(7) The location and type of existing or proposed erosion control devices.

(8) Surface waters in the proposed permit area and adjacent area, as required by § 291.106 (relating to surface water information).

(b) An application shall contain a United States Department of Agriculture Soil Conservation Service soils map, or aerial photographs if current soils maps are unavailable, which shows the location and types of soils within the proposed permit area and adjacent area.

Subchapter C. GENERAL OPERATING REQUIREMENTS FOR THE LAND APPLICATION OF RESIDUAL WASTE

GENERAL

§ 291.201. General provisions.

(a) A person or municipality may not own or operate a land application facility for residual waste unless the Department has issued a permit to that person or municipality under this chapter.

(b) A person or municipality that owns or operates a land application facility for residual waste shall comply with the following:

(1) The act, this subchapter and the additional operating requirements for the specific type of operation that are in Subchapter D or E (relating to additional requirements for the agricultural utilization of residual waste; and additional requirements for land reclamation).

(2) The plans and specifications in the permit, the terms and conditions of the permit, the environmental protection acts, this title and orders issued by the Department.

(3) The Department guidelines for land application.

(4) If a component of the residual waste contains human waste, the pathogen and vector attraction reduction requirements in Chapter 271, Subchapter J (relating to beneficial use) shall be met in addition to the operating requirements of this chapter.

(c) Municipal waste and hazardous waste may not be stored, processed or disposed at the facility.

(d) Residual waste may not be applied to the land if it is likely to adversely affect a Federal or Pennsylvania threatened or endangered species, or its designated critical habitat, identified pursuant to the Endangered Species Act (16 U.S.C.A. §§ 1531—1544), 30 Pa.C.S. § 2305 (relating to threatened and endangered species) or 34 Pa.C.S. § 2167 (relating to endangered or threatened species).

(e) Residual waste may not be applied to a site that is flooded, frozen, or snow-covered, except as expressly provided in the permit.

§ 291.202. Areas where the land application of residual waste is prohibited.

(a) Except for areas permitted by the Department prior to the effective date of these regulations, the land application of residual waste may not be conducted as follows:

(1) Within 100 feet of an intermittent or perennial stream.

(2) Within 300 feet of a water source unless the current owner of this water source has provided a written waiver consenting to the activities closer than 300 feet. This paragraph does not apply to features that may come into existence after the dates upon which adjacent landowner notification is given under § 287.151(b) (relating to public notice by applicant).

(3) Within 100 feet of a sinkhole.

(4) In or within 100 feet of an exceptional value wetland.

(5) Within 300 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the activities closer than 300 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(b) The Department may waive the isolation distances in this section for areas that were included in the permit area of a permit application that was determined by the Department to be administratively complete before July 4, 1992.

§ 291.203. Limitations on land application of residual waste.

(a) Residual waste may not be applied to land where the regional groundwater table is less than 3.3 feet from the surface.

(b) Residual waste may not be disposed or applied so as to adversely affect the soil or food chain, cause odors or allow vectors.

(c) Prior to land application, residual waste shall be treated or stabilized if it has potential to cause odors or other adverse environmental effects.

(d) Unless otherwise approved by the Department in writing, residual waste may not be applied to land where root vegetables or vegetables which are eaten raw are grown or will be grown.

(e) Residual waste shall be applied to the soil surface or incorporated in a manner that prevents ponding or standing accumulations of liquid or residual waste.

(f) A person or municipality may not use spray irrigation equipment to apply residual waste unless the person has demonstrated to the Department in the permit application that the equipment will not cause aerosol transport offsite, and the Department has approved the equipment as part of the permit.

(g) Livestock may not be allowed to graze on areas where the residual waste is visible on the vegetation or the surface of the ground, unless otherwise approved by the Department in writing.

§ 291.205. Erosion control.

(a) The operator shall manage surface water and control erosion and sedimentation to meet the applicable requirements of Chapter 102 (relating to erosion and sediment control).

(b) For land reclamation, rills and gullies shall be filled, graded or otherwise stabilized and the area reseeded or replanted when rills or gullies deeper than 9 inches form in areas where residual waste has been applied or stored.

(c) For agricultural utilization, rills and gullies shall be filled, graded or otherwise stabilized and, when necessary,

the area reseeded or replanted, when rills or gullies deeper than 3 inches form in areas where residual waste has been applied or stored.

(d) Rills or gullies of lesser size shall be stabilized and the area reseeded or replanted if the rills or gullies may result in additional erosion, sedimentation or pollution.

§ 291.207. Water supply replacement.

(a) An operator which adversely affects a water supply by degradation, pollution or other means shall restore the affected supply at no additional cost to the owner or replace the affected water supply with an alternate source that is of like quantity and quality to the original supply at no additional cost to the owner.

(b) A temporary water supply shall be provided as soon as practicable but not later than 48 hours after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(c) A permanent water supply shall be provided as soon as practicable but not later than 90 days after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(d) Permanent water supplies include development of a new well with a distribution system, interconnection with a public water supply or extension of a private water supply, but do not include provision of bottled water or a water tank supplied by a bulk water hauling system, which are temporary water supplies.

§ 291.209. (Reserved).

§ 291.210. Nuisance minimization and control.

(a) The operator shall control and minimize the attraction, harborage or breeding of vectors.

(b) The operator shall also control and minimize conditions not otherwise prohibited by this subchapter that are harmful to the environment or public health, or which create safety hazards, odors, dust, noise, unsightliness and other public nuisances.

RECORDKEEPING AND REPORTING

§ 291.221. Daily operational records.

(a) A person or municipality that disposes of residual waste by land application shall make and maintain an operational record for each day that the residual waste is applied.

(b) The daily operational record shall include the following:

(1) The type, percent solids and weight or volume of the residual waste that was applied.

(2) The name, mailing address, county and state of each generator of residual waste.

(3) The transporters of the residual waste.

(4) The particular map location of the area being used for land application of residual waste, and the weight or volume of residual waste this area received in the previous calendar year.

(5) A record of deviations from the permit.

(6) General weather conditions during disposal.

(7) The application rate for residual waste.

(8) A record of actions taken to correct violations of the act, the environmental protection acts and this title.

(9) A description of waste handling problems or emergency disposal facilities.

(c) If residual waste is being stored at the site, the operator shall maintain, on forms provided by the Department, accurate operational records sufficient to determine whether the waste is being stored in accordance with § 291.204 (relating to storage of residual waste).

(d) Daily operational records shall be retained for the life of the facility bond, or longer if determined by the Department to be necessary to meet the standards of the environmental protection acts. These records shall be made available to the Department upon request.

§ 291.222. Annual operation report.

(a) A person or municipality that applies residual waste to land under this chapter shall submit to the Department an annual operation report for each permitted facility on or before March 1 of each year.

(b) The annual operation report, which shall be submitted on a form supplied by the Department, shall include the following:

(1) The weight or volume of each type of residual waste received, and the weight or volume applied to each field or other application area.

(2) The type, percent solids and weight or volume of residual waste received from each generator, including the name, mailing address, county and state of each generator.

(3) A current certificate of insurance, as specified in § 287.373(a) (relating to proof of insurance coverage), evidencing continuous coverage for comprehensive general liability insurance as required by § 287.371 (relating to insurance requirement).

(4) Changes in ownership of the land where the operation is conducted or a change in a lease agreement for the use of the land that may affect or alter the operator's rights upon the lands.

(5) The annual groundwater monitoring evaluation if groundwater monitoring is required by the Department.

(6) For agricultural utilization facilities which have received residual waste in the calendar year, a chemical analysis of soil for each field or soil series at the facility for pH, phosphorus, cadmium, zinc, copper, nickel, lead, chromium, mercury and any other constituents contained in the waste that may be leached into the environment, as determined under § 287.132 (relating to chemical analysis of waste), unless otherwise specified by the Department in the permit. The procedure for soil sampling and analysis shall be consistent with the Department guidelines.

(7) Certification that the operator has received the analysis or certification required by § 287.54 (relating to chemical analysis of waste) for each type of residual waste or special handling waste received at the facility, and that the residual waste that is received at the facility meets the conditions in the facility's permit.

(c) The annual operation report shall also contain a topographic map of the same scale and contour interval as the map required under § 291.103 (relating to maps

and related information), showing the field boundaries where residual waste has been applied, and the volume applied to each field or other designated application area.

(d) The annual operation report shall be accompanied by a nonrefundable annual permit administration fee in the form of a check payable to the "Commonwealth of Pennsylvania" for the following amounts:

(1) Six hundred dollars for the agricultural utilization of residual waste.

(2) Nineteen hundred dollars for land reclamation of residual waste.

(e) The Department may waive any of the requirements of this section if no residual waste was disposed of by land application in the previous year.

Subchapter D. ADDITIONAL REQUIREMENTS FOR THE AGRICULTURAL UTILIZATION OF RESIDUAL WASTE

ADDITIONAL APPLICATION REQUIREMENTS

§ 291.301. Additional application requirements.

In addition to the requirements of Subchapter B (relating to general application requirements for the land application of residual waste), an application for a permit for agricultural utilization of residual waste shall include the following:

(1) A projected 3-year crop rotation plan, including the type of farming operation, type of crop, planting sequence, crop management and use of the crops.

(2) An operations map showing the location of groundwater monitoring devices that exist or are proposed for the facility.

(3) A nutrient management plan for the site, including:

(i) A description of the kind and amount of fertilizers or soil conditioners that will be placed on the site in addition to residual waste.

(ii) The number and kind of animals on the farm or property, as well as the total nutrient value of manure produced by those animals, and the location where the manure is placed.

(iii) An explanation and analysis of the effect on the soil from the additional nutrients that would be supplied by the residual waste.

(iv) The benefit to the soil or farming operation that the waste would provide.

ADDITIONAL OPERATING REQUIREMENTS

§ 291.311. General requirements.

(a) In addition to the requirements of Subchapter C (relating to general operating requirements for the land application of residual waste), a person or municipality that applies residual waste for agricultural utilization shall comply with this section and §§ 291.312—291.316, unless the person or municipality has obtained a permit from the Department for land reclamation. In that case, the person or municipality shall comply with the applicable provisions of Subchapter E (relating to additional requirements for land reclamation).

(b) A person or municipality may not apply residual waste for agricultural utilization that contains a constituent in such high concentrations that it requires a loading rate which would give the residual waste little or no nutrient or soil conditioning value in the soil.

§ 291.312. Site characteristics.

A person or municipality may not apply residual waste to a site unless the site complies with the following:

(1) The site shall have soils that fall within the United States Department of Agriculture textural classes of sandy loam, loam, sandy clay loam, silty clay loam or silt loam, unless otherwise approved by the Department in the permit.

(2) The site shall have a minimum depth from surface to seasonal high water table of 11 inches.

(3) Slopes to be utilized for agricultural utilization may not exceed 25%, unless otherwise approved in writing by the Department.

(4) Soil pH shall be 6.5 or greater prior to land application, unless the Department allows the operator to increase pH by application of residual waste or other material.

(5) Except as provided in paragraph (6), soil pH shall be maintained at 6.5 or greater for the life of land application operations.

(6) If the site is planted with nursery crops that require a pH of less than 6.5, the Department may approve a soil pH of 5.8 or greater in the permit.

§ 291.314. (Reserved).

§ 291.315. Water quality monitoring.

(a) If required by the Department as part of the permit, the operator shall conduct groundwater monitoring. The groundwater monitoring shall be in accordance with §§ 288.252—288.258, as required by the Department, and the terms and conditions of the permit, and shall continue for the period specified in § 293.262 (relating to cessation of operations).

(b) For purposes of interfacing with §§ 288.252—288.258, the following terms apply:

(1) The term "disposal area" is substituted with "area where land application occurs."

(2) The term "residual waste landfill" is substituted with "land application facility."

(3) The term "disposed" is substituted with "land applied."

§ 291.316. Soil-pore water monitoring.

If required by the Department, based upon the waste and site characteristics, the operator shall conduct soil-pore water monitoring and accurately characterize soil-pore water at the facility.

Subchapter E. ADDITIONAL REQUIREMENTS FOR LAND RECLAMATION

ADDITIONAL OPERATING REQUIREMENTS

§ 291.412. Site characteristics.

A person or municipality may not apply residual waste under a land reclamation permit unless the site complies with the following:

(1) Slopes to be utilized for residual waste application may not exceed 35%, unless otherwise approved in writing by the Department.

(2) Soil pH shall be 6.5 or greater prior to residual waste application unless the Department in the permit allows the operator to increase pH by application of residual waste or other material. In that case, soil pH shall be 6.0 or greater at the end of the first year following the initial application of residual waste and 6.5

or greater at the end of the second year following the initial application of residual waste.

(3) Except as provided in paragraph (2), soil pH shall be maintained at 6.5 or greater during the life of application operations.

§ 291.414. Weather.

(a) The operator may not apply residual waste between October 15 and April 15.

(b) The Department may approve the storage of residual waste between October 15 and May 30 in the permit if the operator makes a satisfactory demonstration under Chapter 299, Subchapter A (relating to standards for storage of residual waste). The storage may not exceed in amount the residual waste necessary to reclaim the permitted area that was prepared for residual waste application prior to October 15.

§ 291.416. Water quality monitoring.

(a) If required by the Department as part of the permit, the operator shall conduct groundwater monitoring. The groundwater monitoring shall be in accordance with §§ 288.252—288.258, as required by the Department, and the terms and conditions of the permit, and shall continue for the period specified in § 293.262 (relating to cessation of operations).

(b) For purposes of interfacing with §§ 288.252—288.258, the following terms apply:

(1) The term "disposal area" is substituted with "area where land application occurs."

(2) The term "residual waste landfill" is substituted with "land application facility."

(3) The term "disposed" is substituted with "land applied."

§ 291.417. Soil-pore water monitoring.

If required by the Department, based upon waste and site characteristics, the operator shall conduct soil-pore water monitoring and accurately characterize soil-pore water at the facility.

Subchapter F. (Reserved)

§§ 291.501—291.503. (Reserved).

§§ 291.511—291.517. (Reserved).

§§ 291.521—291.528. (Reserved).

CHAPTER 293. TRANSFER FACILITIES FOR RESIDUAL WASTE

Subchapter A. GENERAL

§ 293.1. Scope.

(a) This chapter sets forth application and operating requirements for transfer facilities. The requirements in this chapter are in addition to the applicable requirements in Chapter 287 (relating to residual waste management—general provisions).

(b) The Department may waive or modify a requirement of this chapter for permitted transfer facilities at which no actual loading, unloading or transferring of residual waste occurs, if the absence of the loading, unloading or transferring activity renders the requirement unnecessary.

Subchapter B. APPLICATION REQUIREMENTS FOR TRANSFER FACILITIES

§ 293.102. Operating plan.

(a) An application to operate a transfer facility shall contain a narrative description of the general operating plan for the proposed facility, including the origin, composition and weight or volume of solid waste that is proposed to be received at the facility, the process to be used at the facility, the daily operational methodology of the proposed process, the loading rate, the proposed capacity of the facility and the expected life of the facility.

(b) An application shall contain a plan for an alternative waste handling or disposal system during periods when the proposed facility is not in operation, including procedures to be followed in case of equipment breakdown. Procedures may include the use of standby equipment, extension of operating hours and contractual agreements for diversion of residual waste to other facilities.

(c) An application shall contain a plan for training equipment operators and other personnel concerning the operation and approved design of the facility, including safety measures to prevent injuries.

(d) An application shall contain a plan for assuring that solid waste received at the facility is consistent with § 293.201 (relating to basic limitations).

(e) An application shall contain the proposed operating hours of the proposed facility.

(f) An application shall contain a narrative describing the procedures for inspection and monitoring of incoming waste.

§ 293.103. Maps and related information.

(a) An application shall contain a topographic map of the proposed permit area and adjacent area, including necessary narrative descriptions, which shows the following:

(1) The boundaries and names of present owners of record of land, both surface and subsurface, and including easements, rights-of-way and other property interests, for the proposed permit area and adjacent area; the boundaries of the land within the proposed permit area; and a description of title, deed or usage restrictions affecting the proposed permit area.

(2) The boundaries of the land to be affected over the estimated total life of the proposed facility.

(3) The location and name of surface water bodies such as springs, streams, lakes, ponds, wetlands, constructed or natural drains, and irrigation ditches that are located on or within 1/4 mile of the proposed facility.

(4) The location and name of public and private water sources that are located on or within 1/4 mile of the proposed facility. If more than 50 wells are located within the 1/4-mile radius, the applicant may identify only the closest wells in each direction and generally describe the location and number of wells within the 1/4-mile radius.

(5) The location of rights-of-way for high-tension power lines, pipelines, railroads and public and private roads within 300 feet of the proposed facility.

(6) The location of buildings in use by a person within 300 feet of the proposed facility.

(7) The anticipated location of water quality monitoring points if monitoring is required by the Department.

(8) The boundaries of land within the proposed permit area or adjacent area identified in § 293.202 (relating to areas where transfer facilities are prohibited).

(9) The municipalities in which the permit area is proposed to be located.

(10) The location of the 100-year floodplain boundaries.

(11) The location of access roads to and within the proposed permit area, including slopes, grades and lengths of the roads.

(12) The location of barriers, fences and similar facilities required by § 293.212 (relating to access control).

(13) The water diversion, collection, conveyance, erosion and sedimentation control, treatment, storage and discharge facilities to be used.

(14) The solid waste storage or loading/unloading areas.

(15) The areas of land for which a bond will be posted under Chapter 287, Subchapter E (relating to bonding and insurance requirements).

(16) The location and use of buildings and related facilities which will be used in the operation.

(17) The location of scales and weigh stations to be used in the operation.

(18) For noncaptive residual waste transfer facilities, a designated area for vehicles for use in the event of the detection of waste containing radioactive material. The designated area shall, by location or shielding, protect the environment, facility staff and public from radiation originating in the vehicle. The Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, describes various factors to consider in determining an appropriate designated area.

(b) The applicant shall also show the location of a permanent benchmark for horizontal and vertical control.

§ 293.106. Soil and groundwater monitoring plan.

(a) If required by the Department, the applicant shall submit a groundwater monitoring plan to detect groundwater degradation from the facility.

(b) If required by the Department, the applicant shall submit a soil monitoring plan capable of detecting soil contamination from the facility.

§ 293.109. Contingency plan.

An application shall contain a contingency plan consistent with §§ 293.241—293.243 (relating to emergency procedures). The plan shall include a Preparedness, Prevention and Contingency (PPC) Plan that is consistent with the Department's most recent guidelines for the development and implementation of PPC Plans.

§ 293.110. Daily volume.

The application shall contain a proposed maximum daily volume for the facility, and a detailed justification for the volume, based on §§ 287.126 and 287.127 (relating to requirement for environmental assessment; and environmental assessment).

§ 293.111. Radiation protection action plan.

(a) An application for a noncaptive residual waste transfer facility shall contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, recordkeeping and reporting.

(b) The action plan shall be prepared in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, or in a manner at least as protective of the environment, facility staff and public health and safety and which meets all statutory and regulatory requirements.

(c) The action plan shall be incorporated into the transfer facility's approved waste analysis plan under § 287.134 (relating to waste analysis plan).

Subchapter C. OPERATING REQUIREMENTS FOR TRANSFER FACILITIES

GENERAL PROVISIONS

§ 293.201. Basic limitations.

(a) A person or municipality may not own or operate a transfer facility unless the Department has first issued a permit to that person or municipality for the facility under this chapter.

(b) A person or municipality that operates a transfer facility shall comply with the following:

(1) The operating requirements of the act, this subchapter and the applicable requirements of Chapter 287 (relating to residual waste management—general provisions).

(2) The plans and specifications in the permit, the terms and conditions of the permit, the environmental protection acts, this title and orders issued by the Department.

(c) A person or municipality that operates a transfer facility may not allow residual waste or special handling waste to be received or handled at the facility unless the Department has specifically approved handling the waste in the permit.

(d) A person or municipality that operates a transfer facility may not:

(1) Mix solid waste with, or store solid waste in proximity to other solid waste to create a risk of fire or explosion, or a risk of the accumulation of poisonous or otherwise harmful vapors or gases.

(2) Allow explosive waste to be stored, processed or disposed at the facility.

(3) Allow hazardous waste to be stored, processed or disposed at the facility.

(e) A person or municipality may not store, process or dispose of municipal waste, other than special handling waste, at the facility. Special handling municipal waste may be handled at the facility only if the Department has specifically approved handling the waste at the facility.

(f) All approved mitigation measures identified in the permit application shall be completed before a facility may accept waste unless a later date is authorized in writing by the Department for technical reasons.

(g) The following radioactive material controlled under specific or general license or order authorized by any Federal, state or other government agency may not be processed at the facility, unless specifically exempted from disposal restriction by an applicable Pennsylvania or Federal statute or regulation:

(1) Naturally occurring and accelerator produced radioactive material.

(2) Byproduct material.

(3) Source material.

(4) Special nuclear material.

(5) Transuranic radioactive material.

(6) Low-level radioactive waste.

(h) The following radioactive material may not be processed at the facility, unless approved in writing by the Department and the processing does not endanger the environment, facility staff or public health and safety.

(1) Short-lived radioactive material from a patient having undergone a medical procedure.

(2) TENORM.

(3) Consumer products containing radioactive material.

(i) The limitations in subsections (g) and (h) do not apply to radioactive material as found in the undisturbed natural environment of this Commonwealth.

§ 293.202. Areas where transfer facilities are prohibited.

(a) Except for areas that were permitted prior to July 4, 1992, a transfer facility may not be operated:

(1) In the 100-year floodplain of a water in this Commonwealth, unless the Department approves in the permit a method of protecting the facility from a 100-year flood consistent with the Flood Plain Management Act (32 P.S. §§ 679.101—679.601) and the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27).

(2) In or within 300 feet of an exceptional value wetland.

(3) In or within 100 feet of a wetland other than an exceptional value wetland, unless the storage and processing take place in an enclosed facility and no adverse impacts to the wetland will occur or storage and processing will not occur within that distance and one of the following applies:

(i) If the operation is in or along the wetland, the operator has received a permit from the Department under Chapter 105 (relating to dam safety and waterway management).

(ii) If the operation is not in or along the wetland, no adverse hydrologic or water quality impacts will result.

(4) Within 300 feet measured horizontally from an occupied dwelling, unless the owner has provided a written waiver consenting to the facility being closer than 300 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(5) Within 100 feet of a perennial stream, unless one of the following applies:

(i) The storage and processing take place in an enclosed facility and no adverse hydrologic or water quality impacts will result.

(ii) The facility transfers waste to barges at the transfer facility location.

(iii) Storage and processing that is not enclosed will not occur within that distance and no adverse hydrologic or water quality impacts will result.

(6) Within 50 feet of a property line, unless one of the following applies:

(i) The storage and processing take place in an enclosed facility.

(ii) The owner of the adjacent property has provided a written waiver consenting to the facility being closer than 50 feet. The waiver shall be knowingly made and separate from a lease or a deed unless the lease or deed contains an explicit waiver from the owner.

(iii) Actual storage and processing of waste is not occurring within that distance.

(7) If a school, park or playground is nearby, the following apply:

(i) Except for an expansion of a residual waste transfer station permit issued prior to January 13, 2001, for a residual waste transfer station permit issued on or after January 13, 2001, within 300 yards of the following:

(A) A building which is owned by a school district or school and used for instructional purposes.

(B) A park.

(C) A playground.

(ii) The current property owner of a school building, park or playground may waive the 300-yard prohibition by signing a written waiver. Upon receipt of the waiver, the Department will waive the 300-yard prohibition and will not use the prohibition as the basis for the denial of a new permit.

(b) Except as provided in subsection (c), this section does not apply to features that may come into existence after the date of the first newspaper notice under § 287.151 (relating to public notice by applicant).

(c) This section does not apply to features that may come into existence after the date of the first newspaper notice under this subsection if the following apply:

(1) The person or municipality publishes a notice of intent to file an application for a transfer facility permit. The notice, which is separate from the newspaper notice required by § 287.151, shall be published once a week for 3 consecutive weeks in a newspaper of general circulation in the area where the facility is proposed to be located. The notice shall include a brief description of the location and proposed operation of the facility.

(2) The person or municipality files an administratively complete application under § 287.202 (relating to completeness review) with the Department within 1 year from the date of the first newspaper notice under this subsection.

(d) The Department may waive the isolation distances in this section for areas that were included in the permit area of a permit application that was determined by the Department to be administratively complete before July 4, 1992.

DAILY OPERATIONS

§ 293.211. Signs and markers.

(a) A person or municipality that operates a noncaptive transfer facility shall identify the facility for the duration of operations by posting and maintaining a sign which will be clearly visible and can be easily seen and read at the junction of each access road and public road unless otherwise approved by the Department. The sign shall be constructed of a durable, weather-resistant material. The sign shall show the name, business address and telephone number of the person or municipality that operates the facility, the operating hours of the facility and the number of the current permit authorizing operations at the facility.

(b) Permit area markers and the benchmark for horizontal and vertical control shall be:

(1) Posted and maintained for the duration of the operation to which they pertain.

(2) Clearly visible, readable and uniform throughout the operation.

(3) Permanently fixed and made of a durable material.

§ 293.212. Access control.

(a) A gate or other barrier shall be maintained at potential vehicular access points to block unauthorized access to the site when an attendant is not on duty.

(b) The operator shall maintain a fence or other suitable barrier around the site sufficient to prevent unauthorized access.

(c) Access to the site shall be limited to times when an attendant is on duty.

§ 293.213. Access roads.

(a) Access roads shall be designed, constructed and maintained to prevent erosion to the maximum extent possible and to prevent contributions of sediment to streams or runoff outside the site.

(b) A crossing of a perennial or intermittent stream or a wetland shall be made using bridges, culverts or similar structures. Bridges, culverts or other encroachments or water obstructions shall meet the requirements of Chapter 105 (relating to dam safety and waterway management).

(c) An access road shall have a drainage system that is compatible with the natural drainage system, structurally stable, and which will safely conduct the peak flow from a 25-year, 24-hour precipitation event. The drainage system shall comply with Chapter 102 (relating to erosion control).

(d) An access road shall be paved or surfaced with asphalt, gravel, cinders or other equivalent material approved by the Department in the permit. An access road shall be capable of withstanding the load limits projected by the applicant under § 293.104 (relating to plan for access roads). The maximum sustained grade of an access road may not exceed 12%.

(e) An access road negotiable by loaded collection vehicles shall be provided from the entrance gate of the area to unloading areas, treatment facilities or impoundments.

(f) Roads shall be constructed on a base that is capable of withstanding anticipated loads.

(g) Disturbed areas adjacent to a road shall be vegetated or otherwise stabilized to prevent erosion.

(h) An access road shall be maintained to control dust and to prevent or control the tracking of mud on and off site.

§ 293.214. Measuring waste.

(a) An operator of a residual waste transfer facility that has received, is receiving or will receive 30,000 or more cubic yards of solid waste in a calendar year shall weigh solid waste when it is received. The scale used to weigh solid waste shall conform to 3 Pa.C.S. Chapter 41 (relating to the Consolidated Weights and Measures Act) and 70 Pa. Code Part I (relating to weighmasters). The operator of the scale shall be a licensed public weighmaster under 3 Pa.C.S. Chapter 41 and 70 Pa. Code Part I.

(b) The operator of a facility that is not required by subsection (a) to weigh waste when it is received shall accurately measure waste by volume or weight prior to unloading.

§ 293.215. Operations and equipment.

(a) Loading, unloading, storage, compaction and related activities shall be conducted in an enclosed building, unless otherwise approved by the Department in the permit.

(b) The operator shall maintain on the site equipment necessary for operation of the facility in accordance with the permit. The equipment shall be maintained in an operable condition.

(c) If a breakdown of the operator's equipment occurs, the operator shall utilize standby equipment as necessary to comply with the act, the environmental protection acts, this subchapter and its permit conditions.

(d) Equipment shall be operated and maintained to prevent solid waste from being unintentionally removed from the storage area.

(e) Equipment shall be cleaned at frequencies specified in the permit based on scheduled or emergency maintenance periods.

(f) The operator of a transfer facility shall inspect and monitor incoming waste to ensure that the receipt of waste is consistent with this article.

§ 293.216. Unloading area.

(a) The approach and unloading area shall be adequate in size and design to facilitate the rapid unloading of solid waste from the collection vehicles and the unobstructed maneuvering of the vehicles and other equipment.

(b) The loading areas and unloading areas shall be constructed of impervious material which is capable of being cleaned by high pressure water spray and shall be equipped with drains or sumps connected to a sanitary sewer system or treatment facility to facilitate the removal of water. Drains or treatment systems may be connected to a sanitary sewer system if a waste characterization is submitted to the sewage treatment plant operator, and the operator finds that the treatment plant can fully treat the waste stream. Leachate may also be collected in holding tanks prior to its transport to the sewage treatment plant.

(c) If the facility has an unloading pit, the facility shall have in place truck wheel curbs and tie downs that are sufficient to prevent trucks from backing into the pit or falling into the pit while unloading.

(d) An attendant or clearly marked signs shall direct vehicles to the unloading area.

(e) The operator shall ensure that collection vehicles unload waste promptly in unloading areas.

(f) Residual waste shall be confined to the unloading area and the approved storage areas.

§ 293.217. Cleaning and maintenance.

(a) Areas within the building shall be kept clean.

(b) The operator may not allow putrescible waste to remain at the transfer facility at the end of the working day or for more than 24 hours, except that putrescible waste may remain at a transfer facility for any period of time up to 72 hours over a weekend or 3-day weekend if the transfer facility permit so provides.

(c) Plumbing shall be properly maintained, and the floors shall be well drained.

(d) Macerators, hammermills and grinders shall be cleanable and shall be equipped with drains that connect to a treatment facility. Drains or treatment systems may be connected to a sanitary sewer system if a waste characterization is submitted to the sewage treatment plant operator, and the operator finds that the treatment plant can fully treat the waste stream.

(e) Provision shall be made for the routine operational maintenance of the facility.

§ 293.218. Air resources protection.

(a) The operator shall implement fugitive air contaminant control measures, and shall otherwise prevent and control air pollution in accordance with the Air Pollution Control Act (35 P. S. §§ 4001—4015), Article III (relating to air resources) and § 293.219 (relating to nuisance minimization control).

(b) A person or municipality may not cause or allow open burning at the facility.

§ 293.219. Nuisance minimization and control.

(a) The operator shall control and minimize the attraction, harborage or breeding of vectors.

(b) The operator also shall control and minimize conditions not otherwise prohibited by this subchapter that are harmful to the environment or public health, or which create safety hazards, odors, dust, noise, unsightliness or other public nuisances.

§ 293.221. Litter.

(a) The operator may not allow litter to be blown or otherwise deposited offsite.

(b) Blown off and intercepted litter shall be collected at least weekly from fences, roadways, tree line barriers and other barriers and disposed or stored in accordance with the act and this article, unless a greater frequency is set forth in the permit.

§ 293.222. Daily volume.

A person or municipality operating a transfer facility may not receive solid waste at the facility in excess of the maximum daily volume approved in the permit.

§ 293.223. Radiation monitoring and response for noncaptive residual waste transfer facilities.

(a) An operator shall implement the action plan approved under § 293.111 (relating to radiation protection action plan).

(b) An operator shall monitor incoming waste in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document number 250-3100-001, or in a manner at least as protective of the environment, the facility staff and the public health and safety. Monitoring shall meet the requirements of this section and the facility's approved radiation protection action plan.

(c) Radiation detector elements shall be as close as practical to the waste load and in an appropriate geometry to monitor the waste. The radiation monitoring system shall be set to alarm at a level no higher than 10 microroentgen per hour (uR/hr) above the average background at the facility when any of the radiation detector elements is exposed to a Cesium-137 gamma radiation field. Radiation detector elements shall be shielded to maintain the average background below 10 uR/hr. If capable of energy discrimination, the radiation monitoring system shall be set to detect gamma rays of a 50 kiloelectron volt (keV) energy and higher.

(d) An operator shall have portable radiation monitors capable of determining the radiation dose rate and presence of contamination on a vehicle that has caused an alarm. Upon a confirmed exceedance of the alarm level in subsection (c), a radiological survey of the vehicle shall be performed.

(e) An operator shall notify the Department immediately and isolate the vehicle when radiation dose rates of 20 µSv/hr (2 mrem/hr) or greater are detected in the cab of a vehicle, 500 µSv/hr (50 mrem/hr) or greater are detected from any other surface, or contamination is detected on the outside of the vehicle.

(f) Monitoring equipment shall be calibrated at a frequency specified by the manufacturer, but not less than once a year.

(g) If radioactive material is detected, the vehicle containing the radioactive material may not leave the facility without written Department approval and an authorized United States Department of Transportation exemption form.

SOIL AND WATER PROTECTION

§ 293.231. General requirements.

(a) The operator may not cause or allow a point or nonpoint source discharge in violation of The Clean Streams Law from or on the facility to surface waters of this Commonwealth.

(b) A transfer facility shall be operated to prevent and control water pollution. An operator shall operate and maintain necessary water pollution treatment facilities until water pollution from or on the facility has been permanently abated.

(c) The operator may not cause water pollution on or off the site.

(d) The operator may not cause contamination of soil on or off the site.

§ 293.232. Soil erosion and sedimentation control.

The operator shall manage surface water and control erosion and sedimentation to:

(1) Divert surface water away from the storage area with measures and structures necessary to handle surface water flows based on a 25-year, 24-hour precipitation event, and supported by written calculations and also comply with Chapter 102 (relating to erosion control).

(2) Meet the requirements of Chapters 102 and 105 (relating to erosion and sediment control; and dam safety and waterway management).

(3) Prevent erosion to the maximum extent possible, including where possible, using revegetation.

§ 293.233. Soil and groundwater monitoring.

(a) If required by the Department as part of the permit, the operator shall conduct soil or groundwater monitoring, or both. The groundwater monitoring shall be in accordance with §§ 288.252—288.258, as required by the Department, and the terms and conditions of the permit, and shall continue for the period specified in § 293.262 (relating to cessation of operations).

(b) For purposes of interfacing with §§ 288.252—288.258, the following terms apply:

(1) The term "disposal area" is substituted with "area where storage and processing occur."

(2) The term "residual waste landfill" is substituted with "transfer facility."

(3) The term "disposed" is substituted with "stored or processed."

§ 293.234. Water supply replacement.

(a) An operator that adversely affects a water supply by degradation, pollution or other means shall restore the

affected supply at no additional cost to the owner or replace the affected water supply with an alternate source that is of like quantity and quality to the original supply at no additional cost to the owner.

(b) A temporary water supply shall be provided as soon as practicable but no later than 48 hours after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(c) A permanent water supply shall be provided as soon as practicable but no later than 90 days after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(d) Permanent water supplies include development of a new well with a distribution system, interconnection with a public water supply or extension of a private water supply, but do not include provision of bottled water or a water tank supplied by a bulk water hauling system, which are temporary water supplies.

EMERGENCY PROCEDURES

§ 293.241. Hazard prevention.

A transfer facility shall be designed, constructed, maintained and operated to prevent and minimize the potential for fire, explosion or release of solid waste constituents to the air, water or soil of this Commonwealth that could threaten public health or safety, public welfare or the environment.

RECORDKEEPING AND REPORTING

§ 293.251. Daily operational records.

(a) A person or municipality that operates a transfer facility shall make and maintain an operational record for each day that residual waste is received, processed or transported offsite.

(b) The daily operational record shall include the following:

(1) The type and weight or volume of the solid waste received.

(2) The name, mailing address, county and state of each generator of residual waste.

(3) The transporters of the solid waste.

(4) The destination of the solid waste, including the facility name, the county and state in which it is located and the type and weight or volume of waste transported.

(5) The type and weight or volume of materials which are used or reclaimed.

(6) A description of waste handling problems or emergency activities.

(7) A record of deviations from the approved design or operational plans.

(8) A record of activities for which entries are needed to comply with the annual operation report required in § 293.252 (relating to annual operation report).

(9) A report of actions taken to correct violations of the act, the environmental protection acts and this title.

(10) A record of rejected waste loads, and the reasons for rejecting the loads.

(11) For noncaptive facilities, a record of each incident in which radioactive material is detected in waste loads. The record shall include:

(i) The date, time and location of the occurrence.

(ii) A brief narrative description of the occurrence.

(iii) Specific information on the origin of the material, if known.

(iv) A description of the radioactive material involved, if known.

(v) The name, address and telephone numbers of the supplier or handler of the radioactive material and the name of the driver.

(vi) The final disposition of the material.

(c) The operator shall maintain accurate operational records sufficient to determine whether residual waste is being stored in accordance with Chapter 299, Subchapter A (relating to standards for storage of residual waste).

(d) Daily operational records shall be retained for the life of the facility bond, or longer if determined by the Department to be necessary to meet the standards of the environmental protection acts. These records shall be made available to the Department upon request.

§ 293.252. Annual operation report.

(a) A person or municipality that operates a transfer facility shall submit to the Department an annual operation report on or before June 30 of each year.

(b) The annual operating report, which shall be submitted on a form supplied by the Department, shall include the following:

(1) The weight or volume of each type of solid waste received.

(2) The weight or volume of each material used, reclaimed or marketed.

(3) The destination of the solid waste, including the facility name, the county and state in which it is located, and the type and weight or volume of waste transported.

(4) A current certificate of insurance as specified in § 287.373(a) (relating to proof of insurance coverage), evidencing continuous coverage for comprehensive general liability insurance as required by § 287.371 (relating to insurance requirement).

(5) Changes in the previous year concerning the information required by §§ 287.124 and 287.125 (relating to identification of interests; and compliance information). The report shall also state if no changes have occurred.

(6) A change in the ownership of the land upon which the facility is located or a change in a lease agreement for the use of the land that may affect or alter the operator's rights upon the lands.

(7) A written update of the total bond liability for the facility under § 287.331 (relating to bond amount determination). If additional bond is determined to be necessary, it shall be submitted to the Department within 90 days after the annual report is due.

(8) Certification that the operator has received the analysis or certification required by § 287.54 (relating to chemical analysis of waste) for each type of residual

waste or special handling waste received at the facility, and that the residual waste or special handling waste that is received at the facility meets the conditions in the facility's permit.

(9) A record of detected radioactive materials.

(c) The annual operation report shall be accompanied by a nonrefundable annual permit administration fee of $900 in the form of a check payable to "Commonwealth of Pennsylvania."

CESSATION AND CLOSURE

§ 293.262. Cessation of operations.

(a) Upon cessation of transfer operations at the facility, the operator shall remove solid waste and structures or other materials which contain or are contaminated with solid waste, and shall provide for the processing or disposal of the waste or material in accordance with the act, the environmental protection acts and this title.

(b) An operator required under § 293.233 (relating to soil and groundwater monitoring) to conduct soil monitoring may discontinue soil monitoring upon, cessation of processing operations with the Department's approval. In deciding whether to allow discontinuance of monitoring, the Department will consider the operational history of the facility, the likelihood that soil contamination will manifest itself in the future and other factors.

(c) An operator required under § 293.233 to conduct groundwater monitoring may discontinue groundwater monitoring after cessation of processing operations and cleanup only upon written approval by the Department. In deciding whether to allow discontinuance of monitoring, the Department will consider the operational history of the facility, the likelihood that groundwater contamination will manifest itself in the future, whether the remediation standards in § 287.342(c) (relating to final closure certification) are met and maintained and other relevant factors.

CHAPTER 295. COMPOSTING FACILITIES FOR RESIDUAL WASTE

Subchapter B. APPLICATION REQUIREMENTS FOR COMPOSTING FACILITIES

OPERATIONS

§ 295.111. Operating plan.

An application to operate a composting facility shall contain the following:

(1) A narrative description of the general operating plan for the proposed facility, including the origin, composition and weight or volume of solid waste that is proposed to be composted at the facility, the suitability of the waste for composting, the composting process to be used at the facility, the daily operational methodology of the proposed process, the proposed processing and storage capacity of the facility and the expected life of the facility.

(2) A plan for an alternative waste handling or disposal system during periods when the proposed facility is not in operation, including procedures to be followed in case of equipment breakdown. Procedures may include the use of standby equipment, extension of operating hours or contractual agreements for diversion of residual waste to other facilities.

(3) A plan for sampling and analyzing the compost.

(4) A description of the anticipated quality of the compost.

(5) A plan for the anticipated recovery rate of compost from the process, and plans for the reuse, sale or marketing of the compost.

(6) A plan for managing compost if markets for the sale or reuse of compost become unavailable.

(7) A plan for the proposed location and method for disposal or processing of residue produced by operation of the facility.

(8) A plan for assuring that solid waste received at the facility is consistent with § 295.201 (relating to basic limitations).

(9) A plan for training equipment operators and other personnel concerning the operation and approved design of the facility.

(10) The proposed operating hours of the proposed facility.

(11) A narrative describing the procedures for inspection and monitoring of incoming waste.

§ 295.112. Maps and related information.

(a) An application shall contain a topographic map of the proposed permit area and adjacent area, including necessary narrative descriptions, which shows the following:

(1) The boundaries and the names of the present owners of record of land, both surface and subsurface, including easements, rights-of-way and other property interests, for the proposed permit area and adjacent area; the boundaries of the land within the proposed permit area; and a description of title, deed or usage restrictions affecting the proposed permit area.

(2) The boundaries of land to be affected over the estimated total life of the proposed operation.

(3) The location and name of surface water bodies, such as springs, streams, lakes, ponds, wetlands, constructed or natural drains and irrigation ditches that are located on the proposed permit area and adjacent area.

(4) The location and name of public and private water sources that are located on the proposed permit area and adjacent area.

(5) The location of rights-of-way for high-tension power lines, pipelines, railroads and public and private roads within 300 feet of the proposed facility.

(6) The location of buildings in use within 300 feet of the proposed facility.

(7) The anticipated location of water quality monitoring points.

(8) The boundaries of land within the proposed permit area or adjacent area identified in § 295.202 (relating to areas where composting facilities are prohibited).

(9) The location of underground mine shafts on the proposed permit area and on adjacent areas.

(10) The municipalities in which the permit area is proposed to be located.

(11) The location of the 100-year floodplain boundaries in the permit area and adjacent area.

(12) The location of barriers, fences and similar structures required by § 295.213 (relating to access control).

(13) Water diversion, collection, conveyance, sedimentation and erosion control, treatment, storage and discharge facilities to be used.

(14) Composting pads, tipping areas, storage areas, windrow, and loading/unloading areas.

(15) Areas of land for which a bond will be posted under Chapter 287, Subchapter E (relating to bonding and insurance requirements).

(16) The location, size and use of buildings and related facilities which will be used in the operation, including the horizontal and vertical dimensions.

(17) The location of scales and weigh stations to be used in the operation.

(18) Utilities to be installed at the facility.

(19) The location of access roads to the site, including slopes, grades and lengths of the roads.

(20) For noncaptive residual waste composting facilities, a designated area for vehicles for use in the event of the detection of waste containing radioactive material. The designated area shall, by location or shielding, protect the environment, facility staff and public from radiation originating in the vehicle. The Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, describes various factors to consider in determining an appropriate designated area.

(b) The applicant shall also submit a grid coordinate system for the entire proposed permit area. The horizontal control system shall consist of a grid not to exceed 200-foot-square sections. A permanent benchmark for horizontal and vertical control shall be shown. The grid system shall be tied to the benchmark and the baseline.

§ 295.119. Daily Volume.

The application shall contain a proposed maximum daily volume for the facility, and a detailed justification for the volume, based on §§ 287.126 and 287.127 (relating to requirement for environmental assessment; and environmental assessment).

§ 295.120. Radiation protection action plan.

(a) An application for a noncaptive residual waste composting facility shall contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, recordkeeping and reporting.

(b) The action plan shall be prepared in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, or in a manner at least as protective of the environment, facility staff and public health and safety and which meets all statutory and regulatory requirements.

(c) The action plan shall be incorporated into the facility's approved waste analysis plan under § 287.134 (relating to waste analysis plan).

COMPOSTING

§ 295.121. Composting pad design.

(a) An application shall contain plans and specifications for the design, construction and maintenance of composting pads that will be required for the proposed facility.

(b) The application shall also contain a plan for inspection of composting pads or vessels to ensure its integrity.

(c) Composting pad or vessel plans and designs shall be consistent with § 295.231 (relating to composting pad or vessel).

Subchapter C. OPERATING REQUIREMENTS FOR COMPOSTING FACILITIES

GENERAL PROVISIONS

§ 295.201. Basic limitations.

(a) A person or municipality may not own or operate a composting facility unless the Department has first issued a permit to the person or municipality for the facility under this chapter.

(b) A person or municipality that operates a composting facility shall comply with the following:

(1) The operating requirements of the act, this subchapter and Chapter 287 (relating to residual waste management—general provisions).

(2) The plans and specifications in the permit, the terms and conditions of the permit, the environmental protection acts, this title and orders issued by the Department.

(c) A person or municipality that operates a composting facility may not allow residual waste to be handled at the facility unless the Department has specifically approved special measures for managing the waste as part of the permit.

(d) A person or municipality that operates a composting facility may not:

(1) Mix solid waste with, or store solid waste in close proximity to, other solid waste to create a risk of fire or explosion, or a risk of the accumulation of poisonous or otherwise harmful vapors or gases.

(2) Allow explosive waste to be stored, processed or disposed at the facility.

(3) Allow hazardous waste to be stored, processed or disposed at the facility.

(e) Municipal waste, other than sewage sludge, may be stored, processed or disposed at the facility only if specifically approved by the Department in the permit. Sewage sludge may not be stored, processed or disposed at the facility.

(f) All approved mitigation measures identified in the permit application shall be completed before a facility may accept waste unless a later date is authorized in writing by the Department for technical reasons.

(g) The following radioactive material controlled under specific or general license or order authorized by any Federal, state or other government agency may not be processed at the facility, unless specifically exempted from disposal restriction by an applicable Pennsylvania or Federal statute or regulation:

(1) Naturally occurring and accelerator produced radioactive material.

(2) Byproduct material.

(3) Source material.

(4) Special nuclear material.

(5) Transuranic radioactive material.

(6) Low-level radioactive waste.

(h) The following radioactive material may not be processed at the facility unless approved in writing by the Department and the processing does not endanger the environment, facility staff or public health and safety.

(1) TENORM.

(2) Consumer products containing radioactive material.

(3) Short-lived radioactive material from a patient having undergone a medical procedure.

(i) The limitations in subsections (g)—(h) do not apply to radioactive material as found in the undisturbed natural environment of this Commonwealth.

§ 295.202. Areas where composting facilities are prohibited.

(a) Except for areas that were permitted prior to July 4, 1992, a composting facility may not be operated:

(1) In the 100-year floodplain of a water of this Commonwealth unless demonstrated that the composting facility can be protected during flooding.

(2) In, or within 300 feet of, an exceptional value wetland.

(3) In, or within 100 feet of, a wetland other than an exceptional value wetland, unless storage and processing will not occur within that distance or storage and processing take place in an enclosed facility, and one of the following applies:

(i) If the operation is in or along the wetland, the operator has received a permit from the Department under Chapter 105 (relating to dam safety and waterway management).

(ii) If the operation is not in or along the wetland, no adverse hydrologic or water quality impacts will result.

(4) Within 300 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the facility being closer than 300 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(5) Within 100 feet of a perennial stream, unless one of the following applies:

(i) The storage and processing take place in an enclosed facility and no adverse hydrologic or water quality impact will result.

(ii) Storage and processing that is not enclosed will not occur within that distance and no adverse hydrologic or water quality impacts will result.

(6) Within 50 feet of a property line unless one of the following applies:

(i) The storage and processing take place in an enclosed facility.

(ii) The owner of the adjacent property has provided a written waiver consenting to the facility being closer than 50 feet. The waiver shall be knowingly made and separate from a lease or a deed unless the lease or deed contains an explicit waiver from the owner.

(iii) Actual storage and processing of waste is not occurring within that distance.

(7) For processing, disposal and waste or compost storage areas, within 1/4 mile upgradient and within 300 feet downgradient of a private or public water source.

(8) In an area where the pad or vessel will be in contact with the seasonal high water table or perched water table.

(9) If a school, park or playground is nearby, the following apply:

(i) Except for an expansion of a residual waste composting permit issued prior to January 13, 2001, for a residual waste composting permit issued on or after January 13, 2001, within 300 yards of the following:

(A) A building which is owned by a school district or school and used for instructional purposes.

(B) A park.

(C) A playground.

(ii) The current property owner of a school building, park or playground may waive the 300-yard prohibition by signing a written waiver. Upon receipt of the waiver, the Department will waive the 300-yard prohibition and will not use the prohibition as the basis for the denial of a new permit.

(b) Except as provided in subsection (c), this section does not apply to a feature that may come into existence after the date of the first newspaper notice under § 287.151 (relating to public notice by applicant).

(c) This section does not apply to features that may come into existence after the date of the first newspaper notice under this subsection if the following apply:

(1) The person or municipality publishes a notice of intent to file an application for a composting facility permit. The notice, which is separate from the newspaper notice required by § 287.151, shall be published once a week for 3-consecutive weeks in a newspaper of general circulation in the area where the facility is proposed to be located. The notice shall include a brief description of the location and proposed operation of the facility.

(2) The person or municipality files an administratively complete application with the Department within 1 year from the date of the first newspaper notice under this subsection.

(d) The Department may waive the isolation distances in this section for areas that were included in the permit area of a permit application that was determined by the Department to be administratively complete before July 4, 1992.

DAILY OPERATIONS

§ 295.211. Signs and markers.

(a) A person or municipality that operates a composting facility shall identify the facility for the duration of operations by posting and maintaining a sign which will be clearly visible and can be easily seen and read at the junction of each access road and public road unless otherwise approved by the Department. The sign shall be constructed of a durable, weather resistant material. The sign shall show the name, business address and telephone number of the person or municipality operating the facility, the operating hours of the facility and the number of the current permit authorizing operations at the facility.

(b) Permanent physical markers for the grid coordinate system and permit area markers shall be:

(1) Posted and maintained during the duration of the operations to which they pertain.

(2) Clearly visible, readable and uniform throughout the operation.

(3) Permanently fixed and made of a durable material.

(c) The perimeter of the site shall be clearly marked before the beginning of operations.

(d) The permanent physical markers for the grid coordinate system shall be installed at the locations in the permit, prior to the beginning of operations. The base line of the grid system shall be marked with two permanent monuments that show elevation.

§ 295.212. Access roads.

(a) Access roads shall be designed, constructed and maintained to prevent erosion to the maximum extent possible and to prevent contributions of sediment to streams or runoff outside the permit area.

(b) A crossing of a perennial or intermittent stream or a wetland shall be made using bridges, culverts or similar structures. Bridges, culverts or other encroachments or water obstructions shall meet the requirements of Chapter 105 (relating to dam safety and waterway management).

(c) An access road shall have a drainage system that is compatible with the natural drainage system, structurally stable and which will pass safely the peak flow from a 25-year, 24-hour precipitation event. The drainage system shall comply with Chapter 102 (relating to erosion control).

(d) An access road shall be paved or surfaced with asphalt, gravel, cinders or other equivalent material approved by the Department in the permit. An access road shall be capable of withstanding the load limits projected by the applicant under § 295.115 (relating to plan for access roads). The maximum sustained grade of an access road may not exceed 12%.

(e) An access road negotiable by loaded collection vehicles shall be provided from the entrance gate of the area to each unloading area, treatment facility or impoundment. An access road shall also be provided to surface water and groundwater monitoring points approved by the Department under § 295.254 (relating to soil and groundwater monitoring).

(f) Roads shall be constructed on a base that is capable of withstanding anticipated loads.

(g) Prior to the construction of a road, topsoil shall be removed, stored on a stable site and protected against erosion and compaction until restoration of the road.

(h) The disturbed areas adjacent to a road shall be vegetated or otherwise stabilized to prevent erosion.

(i) Access roads shall be designed, constructed and maintained to allow the orderly egress and ingress of vehicular traffic when the facility is in operation, including during inclement weather.

(j) An access road shall be maintained to control dust and to prevent or control the tracking of mud on and off site.

§ 295.213. Access control.

(a) A gate or other barrier shall be maintained at potential vehicular access points to block unauthorized access to the site when an attendant is not on duty.

(b) The operator shall maintain a fence or other suitable barrier around the area sufficient to prevent unauthorized access.

(c) Access to the site shall be limited to times when an attendant is on duty.

§ 295.214. Measuring and inspection of waste.

(a) An operator of a composting facility that has received, is receiving or will receive 30,000 or more cubic yards of residual waste in a calendar year shall weigh residual waste when it is received. The scale used to weigh residual waste shall conform to 3 Pa.C.S. Chapter 41 (relating to the Consolidated Weights and Measures Act) and 70 Pa. Code Part I (relating to weighmasters). The operator of the scale shall be a licensed public weighmaster under 3 Pa.C.S. Chapter 41 and 70 Pa. Code Part I.

(b) The operator of a facility that is not required by subsection (a) to weigh waste when it is received shall accurately measure waste by volume or weight prior to unloading.

(c) The operator shall inspect and monitor incoming waste to ensure that the receipt of waste is consistent with this article.

§ 295.215. Equipment.

(a) The operator shall maintain on the site equipment necessary for operation of the facility in accordance with the permit. The equipment shall be maintained in an operable condition.

(b) If a breakdown of the operator's equipment occurs, the operator shall utilize standby equipment as necessary to comply with the act, the environmental protection acts, this subchapter and its permit conditions.

(c) Equipment shall be operated and maintained to prevent solid waste from being unintentionally removed from the site.

(d) Equipment shall be cleaned at frequencies specified in the permit based on scheduled or emergency maintenance periods.

(e) Provision shall be made for the routine operational maintenance of the facility.

§ 295.217. Air resources protection.

(a) The operator shall control fugitive air contaminants and otherwise prevent and control air pollution in accordance with the Air Pollution Control Act (35 P. S. §§ 4001—4015), Article III (relating to air resources) and § 295.218 (relating to nuisance control).

(b) A person or municipality may not cause or allow open burning at the facility.

§ 295.218. Nuisance minimization and control.

(a) The operator shall control and minimize the attraction, harborage or breeding of vectors.

(b) The operator shall also control and minimize conditions not otherwise prohibited by this subchapter that are harmful to the environment or public health, or which create safety hazards, odors, dust, noise, unsightliness and other public nuisances.

§ 295.220. Litter.

(a) The operator may not allow solid waste, compost or other materials to be blown or otherwise deposited offsite.

(b) Fences or other barriers sufficient to control blowing litter shall be located in the area immediately downwind from the composting and storage areas unless operations are conducted within an enclosed building or the solid waste or compost being stored cannot create blowing litter.

(c) At least weekly, blown off and intercepted litter shall be collected from fences, roadways, tree-lined barriers and other barriers, and disposed or stored in accordance with the act and the regulations thereunder, unless a greater frequency is set forth in the permit.

§ 295.221. Daily volume.

A person or municipality operating a composting facility may not receive solid waste at the facility in excess of the maximum daily volume approved in the permit.

§ 295.222. Radiation monitoring and response for noncaptive residual waste composting facilities.

(a) An operator shall implement the action plan approved under § 295.120 (relating to radiation protection action plan).

(b) An operator shall monitor incoming waste in accordance with the Department's *"Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities,"* Document Number 250-3100-001, or in a manner at least as protective of the environment, facility staff and public health and safety. Monitoring shall meet the requirements of this section and the facility's approved radiation protection action plan.

(c) Radiation detector elements shall be as close as practical to the waste load and in an appropriate geometry to monitor the waste. The radiation monitoring system shall be set to alarm at a level no higher than 10 microroentgen per hour (uR/hr) above the average background at the facility when any of the radiation detector elements is exposed to a Cesium-137 gamma radiation field. Radiation detector elements shall be shielded to maintain the average background below 10 uR/hr. If capable of energy discrimination, the radiation monitoring system shall be set to detect gamma rays of a 50 kiloelectron volt (keV) energy and higher.

(d) An operator shall have portable radiation monitors capable of determining the radiation dose rate and presence of contamination on a vehicle that has caused an alarm. Upon a confirmed exceedance of the alarm level, a radiological survey of the vehicle shall be performed.

(e) An operator shall notify the Department immediately and isolate the vehicle when radiation dose rates of 20 µSv/hr (2 mrem/hr) or greater are detected in the cab of a vehicle, 500 µSv/hr (50 mrem/hr) or greater are detected from any other surface, or contamination is detected on the outside of the vehicle.

(f) Monitoring equipment shall be calibrated at a frequency specified by the manufacturer, but not less than once a year.

(g) If radioactive material is detected, the vehicle containing the radioactive material may not leave the facility without written Department approval and an authorized Federal Department of Transportation Exemption Form.

COMPOSTING PROVISIONS

§ 295.231. Composting pad or vessel.

(a) Solid waste may not be composted, loaded, unloaded or stored, except on a composting pad or vessel that meets the requirements of this section.

(b) The composting pad or vessel shall be adequate in size and capacity to manage the projected solid waste, compost and residue volumes.

(c) A composting pad or vessel shall be:

(1) Capable of preventing the migration of waste, or leachate generated from the composting process.

(2) Designed, constructed and maintained to protect the integrity of the pad or vessel during the projected life of the facility.

(3) Designed to collect leachate.

(4) Constructed of nonearthen material.

(5) Inspected for uniformity, damage and imperfections during construction and installation.

(6) Designed and operated so that the physical and chemical characteristics of the composting pad or vessel and its ability to restrict the flow of solid waste, solid waste constituents or leachate is not adversely affected by the leachate.

(d) The operator shall inspect the composting pad in a manner and frequency approved by the Department in the permit.

(e) Upon completion of the construction of a composting pad or vessel, the operator shall:

(1) Submit a certification by a registered professional engineer on forms provided by the Department. The certification shall describe the composting pad or vessel being certified, using drawings and plans, if appropriate, and shall state that the actual construction was observed by the engineer or persons under his direct supervision, and that the construction was carried out in a manner that is consistent with the permit.

(2) Notify the Department that the facility is ready for inspection. A solid waste may not be composted, and solid waste or compost may not be stored, loaded or unloaded on the composting pad or in the composting vessel, until the Department has conducted an inspection and has transmitted its written approval to the permittee indicating that the construction was done according to the permit.

SOIL AND WATER PROTECTION

§ 295.253. Sedimentation ponds.

(a) Surface drainage from the disturbed area shall be passed through a sedimentation pond or a series of sedimentation ponds before leaving the site. The Department may waive the required use of sedimentation ponds when a person demonstrates to the Department that sedimentation ponds are not necessary to meet the requirements of § 295.251 (relating to general requirements).

(b) Sedimentation ponds shall be constructed, operated and maintained under this section, Chapters 102 and 105 (relating to erosion control; and dam safety and waterway management) and the minimum design criteria contained in the United States Soil Conservation Service's Engineering Standard 378, 'Pond' Pa., as amended.

(c) Sedimentation ponds and other treatment facilities shall be maintained until removal of the ponds and facilities is approved by the Department.

(d) A pond shall include a nonclogging dewatering device approved by the Department that will allow the draining of the water from the pond. The dewatering device may not be located at a lower elevation than the maximum elevation of the sedimentation storage volume.

(e) The ponds shall be designed, constructed and maintained to prevent short circuiting to the maximum extent possible.

(f) The design, construction and maintenance of a sediment pond under this section does not relieve the operator of the responsibility for complying with the applicable treatment requirements and effluent limitations established under § 295.251.

(g) At a minimum, sedimentation ponds shall be capable of treating the runoff resulting from a 25-year, 24-hour precipitation event.

(h) A sedimentation pond shall be designed and inspected during construction under the supervision of a registered professional engineer, who shall certify to the Department upon completion of construction that the pond was constructed as approved in the permit.

§ 295.254. Soil and groundwater monitoring.

(a) If required by the Department as part of the permit, the operator shall conduct soil or groundwater monitoring, or both. The groundwater monitoring shall be in accordance with §§ 288.252—288.258 as required by the Department, and the terms and conditions of the permit, and shall continue for the period specified in § 295.282 (relating to cessation of operations).

(b) For purposes of interfacing with §§ 288.252—288.258, the following terms apply:

(1) The term "disposal area" is substituted with "area where storage and processing occur."

(2) The term "residual waste landfill" is substituted with "composting facility."

(3) The term "disposed" is substituted with "stored or processed."

§ 295.255. Water supply replacement.

(a) An operator which adversely affects a water supply by degradation, pollution or other means shall restore the affected supply at no additional cost to the owner or replace the affected water supply with an alternate source that is of like quantity and quality to the original supply at no additional cost to the owner.

(b) A temporary water supply shall be provided as soon as practicable but not later than 48 hours after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(c) A permanent water supply shall be provided as soon as practicable but not later than 90 days after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(d) Permanent water supplies include development of a new well with a distribution system, interconnection with a public water supply or extension of a private water supply, but do not include provision of bottled water or a water tank supplied by a bulk water hauling system, which are temporary water supplies.

EMERGENCY PROCEDURES

§ 295.261. Hazard prevention.

A composting facility shall be designed, constructed, maintained and operated to prevent and minimize the potential for fire, explosion or release of solid waste constituents to the air, water or soil of this Commonwealth that could threaten public health or safety, public welfare or the environment.

RECORDKEEPING AND REPORTING

§ 295.271. Daily operational records.

(a) A person or municipality that operates a composting facility shall make and maintain an operational record for each day that residual waste is received, processed or transported offsite. Daily operational records shall be retained for the life of the facility bond, or longer if determined by the Department to be necessary to meet the standards of the environmental protection acts. These records shall be made available to the Department upon request.

(b) The daily operational record shall include the following:

(1) The type and weight or volume of the solid waste received.

(2) The name, mailing address, county and state of each generator of residual waste.

(3) The transporters of the solid waste.

(4) A record of activities for which entries are needed to comply with the annual operation report required in § 295.272 (relating to annual operation report).

(5) A record of actions taken to correct violations of the act, the environmental protection acts and this title.

(6) A description of waste handling problems or emergency disposal activities.

(7) For noncaptive facilities, a record of each incident in which radioactive material is detected in waste loads. The record shall include:

(i) The date, time and location of the occurrence.

(ii) A brief narrative description of the occurrence.

(iii) Specific information on the origin of the material, if known.

(iv) A description of the radioactive material involved, if known.

(v) The name, address and telephone numbers of the supplier or handler of the radioactive material and the name of the driver.

(vi) The final disposition of the material.

(c) The operator shall maintain accurate operational records sufficient to determine whether residual waste is being stored under Chapter 299, Subchapter A (relating to standards for storage of residual waste).

§ 295.272. Annual operation report.

(a) A person or municipality that operates a composting facility shall submit to the Department an annual operation report on or before June 30 of each year.

(b) The annual operation report, which shall be submitted on a form supplied by the Department, shall include the following:

(1) The type and weight or volume of solid waste received from each generator, including the name, mailing address, county and state of each generator.

(2) The transporters of the waste.

(3) The weight or volume of each type of waste received.

(4) The weight or volume of each material used, reclaimed, marketed or disposed of as a result of the process.

(5) A current certificate of insurance, as specified in § 287.373(a) (relating to proof of insurance coverage), evidencing continuous coverage for comprehensive general liability insurance as required by § 287.371 (relating to insurance requirement).

(6) Changes in the previous year concerning the information required by §§ 287.124 and 287.125 (relating to identification of interests; and compliance information) report shall state if no changes have occurred.

(7) A change in the ownership of the land upon which the facility is located or a change in a lease agreement for the use of the land that may affect or alter the operator's rights upon the lands.

(8) A written update of the total bond liability for the facility under § 287.331 (relating to bond amount determination). If additional bonding is determined to be necessary, it shall be submitted to the Department within 90 days after the annual report is due.

(9) Certification that the operator has received the analysis or certification required by § 287.54 (relating to chemical analysis of waste) for each type of waste received at the facility, and that the waste that is received at the facility meets the conditions in the facility's permit.

(10) A record of detected radioactive materials.

(c) The annual operation report shall be accompanied by a nonrefundable annual permit administration fee of $900 in the form of a check payable to the "Commonwealth of Pennsylvania."

CESSATION AND CLOSURE

§ 295.282. Cessation of operations.

(a) Upon cessation of composting operations at the facility, the operator shall remove solid waste and structures or other materials which contain or are contaminated with solid waste, and shall provide for the processing or disposal of the waste or material in accordance with the act, the environmental protection acts and this title.

(b) Areas requiring vegetation shall be revegetated under §§ 295.241 and 295.242 (relating to general requirements; and standards for successfull revegetation).

(c) An operator required under § 295.254 (relating to soil and groundwater monitoring) to conduct soil monitoring may discontinue soil monitoring upon cessation of composting operations with the Department's approval. In deciding whether to allow the discontinuance of monitoring, the Department will consider the operational history of the facility, the likelihood that soil contamination will manifest itself in the future and other factors.

(d) An operator required under § 295.254 to conduct groundwater monitoring may discontinue groundwater monitoring after cessation of composting operations and cleanup only upon written approval by the Department. In deciding whether to allow discontinuance of monitoring, the Department will consider the operational history of the facility, the likelihood that groundwater contamination will manifest itself in the future, whether the remediation standards in § 287.342 (c) (relating to final closure certification) are met, maintained and other relevant factors.

CHAPTER 297. INCINERATORS AND OTHER PROCESSING FACILITIES

Subchapter B. APPLICATION REQUIREMENTS FOR PROCESSING FACILITIES

§ 297.102. Operating plan.

An application shall contain:

(1) A narrative description of the general operating plan for the proposed facility, including the origin, composition and weight or volume of solid waste that is proposed to be processed at the facility, the process to be used at the facility, the daily operational methodology of the proposed process, the loading rate, the proposed capacity of the facility and the expected life of the facility.

(2) A plan for an alternative waste handling or disposal system during periods when the proposed facility is not in operation, including procedures to be followed in case of equipment breakdown. Procedures may include the use of standby equipment, extension of operating hours and contractual agreements for diversion of residual waste to other facilities.

(3) An operational safety, fire prevention and emergency response plan that will adequately protect workers and patrons of the facility, prepared by an expert in the field of industrial hygiene and safety.

(4) A plan for assuring that solid waste received at the facility is consistent with § 297.201 (relating to basic limitations).

(5) A plan for training equipment operators and other personnel concerning the operation and approved design of the facility.

(6) The proposed operating hours of the proposed facility.

(7) A narrative describing the procedures for inspection and monitoring of incoming waste.

§ 297.103. Maps and related information.

An application shall contain a topographic map of the proposed permit area and adjacent area, including necessary narrative descriptions, which show the following:

(1) The boundaries and names of present owners of record of land, both surface and subsurface, including easements, rights-of-way and other property interests, for the proposed permit area and adjacent area; the boundaries of the land within the proposed permit area; and a description of title, deed or usage restrictions affecting the proposed permit area.

(2) The boundaries of the land to be affected over the estimated total life of the proposed operation.

(3) The location and name of surface water bodies such as springs, streams, lakes, ponds, wetlands, constructed or natural drains and irrigation ditches that are located on or within 1/4 mile of the proposed facility.

(4) The location and name of public and private water sources that are located on or within 1/4 mile of the proposed facility. If more than 50 wells are located within the 1/4 mile radius, the applicant may identify only the closest wells in each direction and generally describe the location and number of wells within 1/4 mile of the proposed facility.

(5) The location of rights-of-way for high-tension power lines, pipelines, railroads and public and private roads within 300 feet of the proposed facility.

(6) The location of buildings in use within 300 feet of the proposed facility.

(7) The anticipated location of water quality monitoring points, if monitoring is required by the Department.

(8) The boundaries of land within the proposed permit area or adjacent area identified in § 297.202 (relating to areas where incinerators and other processing facilities are prohibited).

(9) The location of underground mine shafts on the permit area and adjacent area.

(10) The municipalities in which the permit area is proposed to be located.

(11) The location of the 100-year floodplain boundaries.

(12) The location of access roads to and within the proposed permit area, including slopes, grades and lengths of the roads.

(13) The location of barriers, fences and similar structures required by § 297.212 (relating to access control).

(14) The water diversion, collection, conveyance, erosion and sedimentation control, treatment, storage and discharge facilities to be used.

(15) The solid waste storage or loading/unloading areas.

(16) The areas of land for which a bond will be posted under Chapter 287, Subchapter E (relating to bonding and insurance requirements).

(17) The location, size and use of buildings and related facilities which will be used in the operation, including their horizontal and vertical dimensions.

(18) The location of scales and weigh stations to be used in the operation.

(19) Utilities to be installed at the facility.

(20) For noncaptive residual waste processing facilities, a designated area for vehicles for use in the event of the detection of waste containing radioactive material. The designated area shall, by location or shielding, protect the environment, facility staff and public from radiation originating in the vehicle. The Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, describes various factors to consider in determining an appropriate designated area.

§ 297.112. Daily volume.

The application shall contain a proposed maximum daily volume for the facility, and a detailed justification for the volume, based on §§ 287.126 and 287.127 (relating to requirement for environmental assessment; and environmental assessment).

§ 297.113. Radiation protection action plan.

(a) An application for a noncaptive residual waste processing facility shall contain an action plan specifying procedures for monitoring for and responding to radioactive material entering the facility, as well as related procedures for training, notification, recordkeeping and reporting:

(b) The action plan shall be prepared in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, or in a manner at least as protective of the environment, facility staff and public health and safety and which meets all statutory and regulatory requirements.

(c) The action plan shall be incorporated into the facility's approved waste analysis plan under § 287.134 (relating to waste analysis plan).

Subchapter C. OPERATING REQUIREMENTS FOR PROCESSING FACILITIES

GENERAL PROVISIONS

§ 297.201. Basic limitations.

(a) A person or municipality may not own or operate a residual waste processing facility, unless the Department has first issued a permit to that person or municipality for the facility under this article.

(b) A person or municipality that operates a residual waste processing facility shall comply with the following:

(1) The operating requirements of the act, this subchapter and the applicable requirements of Chapter 287 (relating to residual waste management—general provisions).

(2) The plans and specifications in the permit, the terms and conditions of the permit, the environmental protection acts, this title and orders issued by the Department.

(c) A person or municipality that operates a residual waste processing facility may not allow residual waste to be handled at the facility unless the Department has specifically approved the processing of the waste as part of the permit.

(d) A person or municipality that operates a residual waste processing facility may not:

(1) Mix solid waste with, or store solid waste in close proximity to other solid waste as to create a risk of fire or explosion, or a risk of the accumulation of poisonous or otherwise harmful vapors of gases.

(2) Allow explosive waste to be stored, processed or disposed at the facility.

(3) Allow hazardous waste to be stored, processed or disposed at the facility.

(e) Municipal waste, including sewage sludge, may not be stored, processed or disposed at the facility. Other special handling municipal waste may not be stored, processed or disposed at the facility unless the Department has specifically approved the storage, processing or disposal of the waste as part of the permit.

(f) The approved mitigation measures identified in the permit application shall be completed before a facility may accept waste unless a later date is authorized in writing by the Department for technical reasons.

(g) The following radioactive material controlled under specific or general license or order authorized by any Federal, state or other government agency may not be processed at the facility, unless specifically exempted from disposal restriction by an applicable Pennsylvania or Federal statute or regulation:

(1) Naturally occurring and accelerator produced radioactive material.

(2) Byproduct material.

(3) Source material.

(4) Special nuclear material.

(5) Transuranic radioactive material.

(6) Low-level radioactive waste.

(h) The following radioactive material may not be processed at the facility unless approved in writing by the Department and the processing does not endanger the environment, facility staff or public health and safety:

(1) TENORM.

(2) Consumer products containing radioactive material.

(3) Short-lived radioactive material from a patient having undergone a medical procedure.

(i) The limitations in subsections (g)—(h) do not apply to radioactive material as found in the undisturbed natural environment of this Commonwealth.

§ 297.202. Areas where incinerators and other processing facilities are prohibited.

(a) Except for areas that were permitted prior to July 4, 1992, residual waste processing facilities subject to this chapter may not be operated:

(1) In the 100-year floodplain of waters of this Commonwealth, unless the Department approves in the permit a method of protecting the facility from a 100-year flood consistent with the Flood Plain Management Act (32 P. S. §§ 679.101—679.601) and the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27).

(2) In or within 300 feet of an exceptional value wetland.

(3) In or within 100 feet of a wetland other than an exceptional value wetland, unless storage and processing will not occur within that distance or the storage and processing take place in an enclosed facility and one of the following applies:

(i) The operation is in or along the wetland, and the operator has received a permit from the Department under Chapter 105 (relating to dam safety and waterway management).

(ii) The operation is not in or along the wetland, and no adverse hydrologic or water quality impacts will result.

(4) Within 300 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the facility being closer than 300 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(5) Within 100 feet of a perennial stream, unless one of the following applies:

(i) The storage and processing take place in an enclosed facility and no adverse hydrologic or water quality impacts will result.

(ii) Storage and processing that is not enclosed will not occur within that distance and no adverse hydrologic or water quality impacts will result.

(6) Within 50 feet of a property line unless the operator demonstrates that actual processing of waste is not occurring within that distance, storage and processing take place in an enclosed facility, or that the owners of occupied dwellings within that distance have provided written waivers consenting to the facility being closer than 50 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

(b) Except for areas that were permitted prior to September 26, 1988, processing facilities that commercially treat residual waste may not be operated within 300 yards of the following:

(1) A building which is owned by a school district or parochial school and used for instructional purposes.

(2) A park.

(3) A playground.

(c) Except as provided in subsection (d), this section does not apply to a feature that may come into existence after the date of the first newspaper notice under § 287.151 (relating to public notice by applicant).

(d) This section does not apply to a feature that may come into existence after the date of the first newspaper notice under this subsection if the following apply:

(1) The person or municipality publishes a notice of intent to file an application for a residual waste processing permit. The notice, which is separate from the newspaper notice required by § 287.151, shall be published once a week for 3 consecutive weeks in a newspaper of general circulation in the area where the facility is proposed to be located. The notice shall include a brief description of the location and proposed operation of the facility.

(2) The person or municipality files an administratively complete application under § 287.202 (relating to completeness review) with the Department within 1 year from the date of the first newspaper notice under this subsection.

(e) The Department may waive the isolation distances in this section for areas that were included in the permit area of a permit application that was determined by the Department to be administratively complete before July 4, 1992.

DAILY OPERATIONS

§ 297.211. Signs and markers.

(a) A person or municipality that operates a facility subject to this subchapter shall identify the operation for the duration of residual waste processing operations by posting and maintaining a sign which is clearly visible and can be easily seen and read at the junction of each access road and public road unless otherwise approved by the Department. The sign shall be constructed of a durable, weather-resistant material. The sign shall show the name, business address and telephone number of the person or municipality operating the facility, the operating hours of the facility and the number of the current permit authorizing operations at the facility.

(b) Permit area markers and the permanent physical markers for the grid coordinate system shall be:

(1) Posted and maintained for the duration of the operation.

(2) Clearly visible, readable and uniform throughout the operation.

(3) Permanently fixed and made of a durable material.

(c) The perimeter of the site shall be clearly marked before the beginning of operations.

§ 297.212. Access control.

(a) A gate or other barrier shall be maintained at potential vehicular access points to block unauthorized access to the site when an attendant is not on duty.

(b) The operator shall maintain a fence or other suitable barrier around the site sufficient to prevent unauthorized access.

(c) Access to the site shall be limited to when an attendant is on duty.

§ 297.213. Access roads.

(a) Access roads shall be designed, constructed and maintained to prevent erosion to the maximum extent possible and to prevent contributions of sediment to streams or runoff outside the site.

(b) A crossing of a perennial or intermittent stream or a wetland shall be made using bridges, culverts or similar structures. Bridges, culverts or other encroachments or water obstructions shall meet the requirements of Chapter 105 (relating to dam safety and waterway management).

(c) An access road shall have a drainage system that is compatible with the natural drainage system, structurally stable and which will pass safely the peak flow from a 24-hour, 25-year precipitation event. The drainage system shall comply with Chapter 102 (relating to erosion control).

(d) An access road shall be paved or surfaced with asphalt, gravel, cinders or other equivalent material approved by the Department in the permit. An access road shall be capable of withstanding the load limits projected by the applicant under § 297.105 (relating to plan for access roads). The maximum sustained grade of an access road may not exceed 12%.

(e) An access road negotiable by loaded collection vehicles shall be provided from the entrance gate of the area to each unloading area, treatment facility or impoundment.

(f) Roads shall be constructed on a base that is capable of withstanding anticipated loads.

(g) Disturbed areas adjacent to a road shall be vegetated or otherwise stabilized to prevent erosion.

(h) Access roads shall be designed, constructed and maintained to allow the orderly egress and ingress of vehicular traffic when the facility is in operation, including during inclement weather.

(i) An access road shall be maintained to control dust and to prevent or control the tracking of mud on and off site.

§ 297.214. Measuring and inspection of waste.

(a) An operator of a solid waste processing facility that has received, is receiving or will receive 30,000 or more cubic yards of residual waste in a calendar year shall weigh residual waste when it is received. The scale used to weigh residual waste shall conform to 3 Pa.C.S. Chapter 41 (relating to the Consolidated Weights and Measures Act) and 70 Pa. Code Part I (relating to weighmasters). The operator of the scale shall be a licensed public weighmaster under 3 Pa.C.S. Chapter 41 and 70 Pa. Code Part I.

(b) The operator of a facility that is not required by subsection (a) to weigh waste when it is received shall accurately measure waste by volume or weight prior to unloading.

(c) The operator of a facility shall inspect and monitor incoming waste to ensure that the receipt of waste is consistent with this article.

§ 297.215. Equipment.

(a) The operator shall maintain on the site equipment necessary for operation of the facility in accordance with the permit. The equipment shall be maintained in an operable condition.

(b) If a breakdown of the operator's equipment occurs, the operator shall utilize standby equipment as necessary to comply with the act, the environmental protection acts, this subchapter and its permit conditions.

(c) Equipment shall be operated and maintained to prevent solid waste from being unintentionally removed from the facility.

(d) Equipment shall be cleaned at frequencies specified in the permit based on scheduled or emergency maintenance periods.

§ 297.216. Unloading area.

(a) The approach and unloading area shall be adequate in size and design to facilitate the rapid unloading of residual waste from collection vehicles and the unobstructed maneuvering of the vehicles and other equipment.

(b) The loading areas and unloading areas shall be constructed of impervious material which is capable of being cleaned by high pressure water spray and shall be equipped with drains or sumps connected to a sanitary sewer system or treatment facility to facilitate the removal of water. Drains or treatment systems may be connected to a sanitary sewer system if a waste characterization is submitted to the sewage treatment plant operator, and the operator finds that the treatment plant can fully treat the waste stream. Leachate may also be collected in holding tanks prior to its transport to the sewage treatment plant.

(c) If the facility has an unloading pit, the facility shall have in place truck wheel curbs or tie downs that are sufficient to prevent trucks from backing into the pit or falling into the pit while unloading.

(d) An attendant or clearly marked signs shall direct vehicles to the unloading area.

(e) The operator shall ensure that collection vehicles unload waste promptly in unloading areas.

(f) Residual waste shall be confined to the unloading area or a storage area approved as part of the operator's permit.

(g) If bulky waste is handled or processed at the facility, the operator shall remove the waste daily or take other action sufficient to prevent nuisances or unsightliness.

(h) The facility shall have a storage capacity for the scheduled or emergency shutdown of processing operations that is equivalent to the waste that can be processed at the facility in 3 days, unless otherwise specified by the Department in the permit.

§ 297.217. Cleaning and maintenance.

(a) Areas within the building shall be kept clean.

(b) The operator may not allow putrescible waste to remain at the facility at the end of the day or for more than 24 hours except that putrescible waste may remain at the facility for any time period up to 72 hours over a weekend or 3-day weekend if provided for in the permit.

(c) Plumbing shall be properly maintained, and the floors shall be well drained.

(d) Processing equipment and areas that have contact with solid waste shall be capable of being cleaned by high-pressure water spray or other methods, and shall be located near drains that connect to a sanitary sewer system or treatment facility.

(e) Provision shall be made for the routine operational maintenance of the facility.

(f) The operator shall inspect the facility daily to detect hot spots in the storage areas, dust accumulation, vectors, litter and other problems, and promptly take necessary corrective actions.

§ 297.218. Air resources protection.

(a) Emissions from a residual waste processing facility shall be consistent with the Air Pollution Control Act (35 P. S. §§ 4001—4015), Article III (relating to air resources), the terms or conditions of its permit and, if applicable, the most recent edition of the Department's criteria for best available technology, and other applicable Departmental guidelines.

(b) The operator may not cause or contribute to an exceedance of any ambient air quality standard under § 131.3 (relating to ambient air quality standards).

(c) A person or municipality may not cause or allow open burning at the facility.

§ 297.219. Nuisance minimization and control.

(a) The operator shall control and minimize the attraction, harborage or breeding of vectors.

(b) The operator shall control and minimize conditions not otherwise prohibited by this subchapter that are harmful to the environment or public health, or which create safety hazards, odors, dust, noise, unsightliness and other public nuisances.

§ 297.221. Litter.

(a) The operator may not allow litter to be blown or otherwise deposited offsite.

(b) Fences or other barriers sufficient to control blowing litter shall be located in the area immediately downwind from the storage or processing area, unless operations are conducted within an enclosed building or the solid waste being processed cannot create blowing litter.

(c) Blown off or intercepted litter shall be collected at least weekly from fences, roadways, tree line barriers and other barriers and disposed or stored in accordance with the act and the regulations thereunder, unless a greater frequency is set forth in the permit.

§ 297.222. Daily volume.

A person or municipality operating a processing facility may not receive solid waste at the facility in excess of the maximum daily volume approved in the permit.

§ 297.223. Radiation monitoring and response for noncaptive residual waste processing facilities.

(a) An operator shall implement the action plan approved under § 297.113 (relating to radiation protection action plan).

(b) An operator shall monitor incoming waste in accordance with the Department's "*Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*," Document Number 250-3100-001, or in a manner at least as protective of the environment, the facility staff and the public health and safety. Monitoring shall meet the requirements of this section and the facility's approved radiation protection action plan.

(c) Radiation detector elements shall be as close as practical to the waste load and in an appropriate geometry to monitor the waste. The radiation monitoring system shall be set to alarm at a level no higher than 10 microroentgen per hour (uR/hr) above the average background at the facility when any of the radiation detector elements is exposed to a Cesium-137 gamma radiation field. Radiation detector elements shall be shielded to maintain the average background below 10 uR/hr. If capable of energy discrimination, the radiation monitoring system shall be set to detect gamma rays of a 50 kiloelectron volt (keV) energy and higher.

(d) An operator shall have portable radiation monitors capable of determining the radiation dose rate and presence of contamination on a vehicle that has caused an alarm. Upon a confirmed exceedance of the alarm level in subsection (c), a radiological survey of the vehicle shall be performed.

(e) An operator shall notify the Department immediately and isolate the vehicle when radiation dose rates of 20 µSv/hr (2 mrem/hr) or greater are detected in the cab of a vehicle, 500 µSv/hr (50 mrem/hr) or greater are detected from any other surface, or contamination is detected on the outside of the vehicle.

(f) Monitoring equipment shall be calibrated at a frequency specified by the manufacturer, but not less than once a year.

(g) If radioactive material is detected, the vehicle containing the radioactive material may not leave the facility without written Department approval and an authorized Federal Department of Transportation Exemption Form.

SOIL AND WATER PROTECTION

§ 297.232. Soil erosion and sedimentation control.

The operator shall manage surface water and control erosion and sedimentation to:

(1) Divert surface water away from the storage area with measures and structures necessary to handle surface water flows, based on a 25-year, 24-hour precipitation event, and supported by written calculations and also in compliance with Chapter 102 (relating to erosion control).

(2) Meet the requirements of Chapter 102 and Chapter 105 (relating to dam safety and waterway management).

(3) Prevent erosion to the maximum extent possible, including if possible, using revegetation.

§ 297.233. Soil and groundwater monitoring.

(a) If required by the Department as part of the permit, the operator shall conduct soil or groundwater monitoring, or both. The groundwater monitoring shall be in accordance with §§ 288.252—288.258, as required by the Department, and the terms and conditions of the permit, and shall continue for the period specified in § 297.272 (relating to cessation of operations).

(b) For purposes of the interfacing with §§ 288.252—288.258, the following terms apply:

(1) The term "disposal area" is substituted with "area where storage and processing occur."

(2) The term "residual waste landfill" is substituted with "incinerator or other processing facility."

(3) The term "disposed" is substituted with "stored or processed."

§ 297.234. Water supply replacement.

(a) An operator which adversely affects a water supply by degradation, pollution or other means shall restore the affected supply at no additional cost to the owner or replace the affected water supply with an alternate source that is of like quantity and quality to the original supply at no additional cost to the owner.

(b) A temporary water supply shall be provided as soon as practicable but not later than 48 hours after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(c) A permanent water supply shall be provided as soon as practicable but not later than 90 days after one of the following:

(1) Receipt of information showing that the operator is responsible for adversely affecting the water supply.

(2) Receipt of notice from the Department that the operator is responsible for adversely affecting the water supply.

(d) Permanent water supplies include development of a new well with a distribution system, interconnection with a public water supply, or extension of a private water supply, but do not include provision of bottled water or a water tank supplied by a bulk water hauling system, which are temporary water supplies.

EMERGENCY PROCEDURES

§ 297.253. Implementation of contingency plan.

(a) The operator of the facility shall immediately implement the applicable provisions of the approved contingency plan whenever there is an emergency. For purposes of this section, the term "emergency" includes a fire, spill or other hazard that threatens public health and safety, public welfare or the environment, and personal injury.

(b) During an emergency, the operator shall:

(1) Assess actual or potential hazards to public health and safety, public welfare and the environment that are occurring or may occur.

(2) Ensure that fires, spills or other hazards do not occur, reoccur or spread to other solid waste at the facility.

(3) Immediately telephone the Department and county emergency management agency, and report the following information:

(i) The name of the person reporting the incident and telephone number where that person can be reached.

(ii) The name, address and permit number of the facility.

(iii) The date, time and location of the emergency.

(iv) A brief description of the nature of the emergency, the type and quantity of the solid waste involved, and what dangers to public health and safety, public welfare and the environment exist or may occur.

(v) The nature of injuries.

(vi) The parts of the contingency plan being implemented to alleviate the emergency.

(c) After an emergency, the operator of the facility shall:

(1) Clean up the area affected by the emergency and treat, store or dispose of recovered solid waste, contaminated soil, contaminated water or other material in a manner approved by the Department.

(2) Prevent processing, storage or disposal of solid waste in the area affected by the emergency until the operator has cleaned up the area, and the Department has approved the resumption of operation after the cleanup.

RECORDKEEPING AND REPORTING

§ 297.261. Daily operational records.

(a) The operator of a residual waste processing facility shall make and maintain an operational record for each day that residual waste is received, processed or transported offsite.

(b) The daily operational record shall include the following:

(1) The type and weight or volume of the solid waste received.

(2) The name, mailing address, county and state of each generator of residual waste.

(3) The transporters of the solid waste.

(4) The weight or volume of each material used, reclaimed or marketed as a result of the process.

(5) The name and county or state of the facility where the solid waste is ultimately disposed and the weight or volume of waste disposed for bypass wastes and waste products.

(6) A description of waste handling problems or emergency disposal activities.

(7) A record of deviations from the approved design or operational plans.

(8) A record of activities for which entries are needed to comply with the annual operation report required in § 297.262 (relating to annual operation report).

(9) A record of actions taken to correct violations of the act, the environmental protection acts and this title.

(10) A record of rejected waste loads and the reasons for rejecting the loads.

(11) For noncaptive facilities, a record of each incident in which radioactive material is detected in waste loads. The record shall include:

(i) The date, time and location of the occurrence.

(ii) A brief narrative description of the occurrence.

(iii) Specific information on the origin of the material, if known.

(iv) A description of the radioactive material involved, if known.

(v) The name, address and telephone numbers of the supplier or handler of the radioactive material and the name of the driver.

(vi) The final disposition of the material.

(12) For noncaptive incinerators, a record of each vehicle, other than a combination, that exceeds 73,280 pounds gross weight and of each combination that exceeds 80,000 pounds gross weight.

(i) The record shall include:

(A) The gross weight of the vehicle when weighed at the facility.

(B) The registration plate number and home, or base state registration of the vehicle.

(C) The name, address and telephone number of the owner of the vehicle.

(D) The date and time when the vehicle was weighed at the facility.

(E) The date that the weight scale was last tested in accordance with 3 Pa.C.S. Chapter 41 (relating to the Consolidated Weights and Measures Act).

(ii) For purposes of this paragraph, the following terms have the following meanings:

(A) *Combination*—Two or more vehicles physically interconnected in tandem. An example of a combination is a truck tractor attached to a semitrailer.

(B) *Gross weight*—The combined weight of a vehicle or combination of vehicles and its load excluding the driver's weight.

(C) *Registration*—The authority for a vehicle to operate on a highway as evidenced by the issuance of an identifying card and plate or plates.

(c) The operator shall maintain accurate operational records sufficient to determine whether residual waste is being stored under Chapter 299, Subchapter A (relating to standards for storage of residual waste).

(d) Daily operational records shall be retained for the life of the facility bond, or longer if determined by the Department to be necessary to meet the standards of the environmental protection acts. These records shall be made available to the Department upon request.

§ 297.262. Annual operation report.

(a) An operator of a residual waste processing facility shall submit to the Department an annual operation report on or before June 30 of each year.

(b) The annual operation report, which shall be submitted on a form supplied by the Department, shall include the following:

(1) The weight or volume of each type of solid waste received.

(2) The type and weight or volume of solid waste received from each generator, including the name, mailing address, county and state of each generator.

(3) The weight or volume of each material marketed or disposed as a result of the process.

(4) A current certificate of insurance, as specified in § 287.373(a) (relating to proof of insurance coverage), evidencing continuous coverage for public liability insurance as required by § 287.371 (relating to insurance requirement).

(5) Changes in the previous year concerning the information required by §§ 287.124 and 287.125 (relating to identificaiton of interests; and compliance information). The report shall also indicate if no changes have occurred.

(6) A change in the ownership of the land upon which the facility is located or a change in a lease agreement for the use of the land that may affect or alter the operator's rights upon the land.

(7) A written update of the total bond liability for the facility under § 287.331 (relating to bond amount determination). If additional bond is determined to be necessary, it shall be submitted to the Department within 90 days after the annual report is due.

(8) Certification that the operator has received the analysis or certification required by § 287.54 (relating to chemical analysis of waste) for each type of residual waste or special handling waste received at the facility, and that the residual waste or special handling waste that is received at the facility meets the conditions in the facility's permit.

(9) A record of detected radioactive materials.

(c) The annual operation report shall be accompanied by a nonrefundable annual permit administration fee in the form of a check payable to the "Commonwealth of Pennsylvania" for the following amounts:

(1) Six hundred fifty dollars for facilities that incinerate residual waste.

(2) Nine hundred dollars for other residual waste processing facilities subject to this subchapter.

CESSATION AND CLOSURE

§ 297.272. Cessation of operations.

(a) Upon cessation of processing operations at the facility, the operator shall remove solid waste and structures or other materials which contain or are contaminated with solid waste, and shall provide for the processing or disposal of the waste or material in accordance with the act, the environmental protection acts and this title.

(b) An operator required under § 297.233 (relating to soil and groundwater monitoring) to conduct soil monitoring may discontinue soil monitoring upon cessation of processing operations only upon written approval of the Department. In deciding whether to allow discontinuance of monitoring, the Department will consider the operational history of the facility, the likelihood that soil contamination will manifest itself in the future and other factors.

(c) An operator required under § 297.233 to conduct groundwater monitoring may discontinue groundwater monitoring after cessation of operations and cleanup only upon written approval by the Department. In deciding whether to allow discontinuance of monitoring, the Department will consider the operational history of the facility, the likelihood that groundwater contamination will manifest itself in the future, whether the remediation standards in § 287.342(c) (relating to final closure certification) are met and maintained and other relevant factors.

CHAPTER 299. STORAGE AND TRANSPORTATION OF RESIDUAL WASTE

Subchapter A. STANDARDS FOR STORAGE OF RESIDUAL WASTE

SCOPE

§ 299.101. Scope.

(a) A person or municipality that stores residual waste shall comply with §§ 299.111—299.117 (relating to general).

(b) In addition to the requirements of subsection (a), the following requirements shall be met:

(1) A person or municipality that stores residual waste in the manner identified in §§ 299.121, 299.122, 299.131—299.133 and 299.141—299.145 shall store the waste under the applicable provisions of those sections.

(2) A person or municipality that stores the types of waste identified in §§ 299.151—299.163 (relating to types of waste) shall store the waste under the applicable provisions of those sections.

(c) This subchapter applies to residual waste storage at impoundments that are permitted for industrial waste water, pretreatment or storage and discharge under The Clean Streams Law.

GENERAL

§ 299.115. Nuisance minimization and control.

(a) A person or municipality that stores residual waste shall:

(1) Control and minimize the harborage, breeding or attraction of vectors.

(2) Take other measures necessary to control and minimize the presence of vectors.

(3) Immediately take measures necessary to exterminate vectors.

(b) A person or municipality storing residual waste shall also minimize and control conditions not otherwise prohibited by this subchapter that are harmful to the public health, public safety or the environment, or which create safety hazards, odors, dust, unsightliness or other public nuisances.

TYPES OF STORAGE CONTAINERS AND TANKS

§ 299.121. Containers.

(a) A person or municipality storing residual waste in containers shall provide a sufficient number of containers to contain solid waste generated during periods between regularly scheduled collections.

(b) An individual container or bulk container used for the storage of residual waste shall have the following characteristics:

(1) The container shall be constructed to be easily handled for collection.

(2) The container shall be constructed of rust resistant and corrosion resistant materials.

(3) The container shall be designed to prevent leaks.

(c) Putrescible waste shall be stored in an individual container or bulk container that has the following characteristics:

(1) The container shall be equipped with a tight fitting lid or cover, or otherwise sealed.

(2) The container shall be watertight, leak-proof, insect-proof and rodent-proof.

(d) All containers shall be clearly labeled as "residual waste" or as the specific type of residual waste.

(e) The total container height of a group of containers may not exceed 9 feet. The maximum width and depth of a group of containers shall provide a configuration and aisle space which ensures access for purposes of inspection, containment and remedial action with emergency vehicles and equipment.

§ 299.122. Storage tanks.

(a) Residual waste storage tanks shall meet the design and performance standards established by this section. A storage tank shall be clearly labeled as "residual waste" and the type of residual waste shall be identified.

(b) Aboveground residual waste storage tanks shall be designed and operated as follows, unless an alternative design is demonstrated to perform at a level equivalent to the requirements of this section and is otherwise approved by the Department:

(1) Tanks shall be designed and constructed in accordance with an appropriate current code of practice developed by Nationally recognized associations such as UL, ACI, API, ASME, ASTM or NACE.

(2) Tanks shall have a stable foundation, capable of supporting the total weight of the tank when full of waste without movement, rolling or unacceptable settling. The foundation shall minimize corrosion of the tank bottom and meet or exceed the specifications of the tank manufacturer. The foundation design and construction shall be based on sound engineering practices.

(3) Newly installed or repaired tanks shall be tested for tightness in accordance with current codes of practice developed by Nationally recognized associations and manufacturer's specifications. If a pneumatic test is used for manufactured (shop built) tanks, the fittings, welds, joints and connections shall be coated with a soap solution and checked for leaks. Deficiencies shall be remedied prior to tanks being placed into service. Hydrostatic test fluids shall be discharged or disposed of in accordance with State and Federal requirements.

(4) Tank connections through which waste can flow shall be equipped with an operating valve adjacent to the tank to control flow of waste. Appropriate valves shall be installed to meet or exceed current codes of practice and jurisdictional requirements. Valves shall be designed, installed and maintained according to current codes of practice.

(5) The exterior surfaces of aboveground tanks and piping shall be protected by a suitable coating, which prevents corrosion and deterioration. The coating system shall be maintained throughout the entire operational life of the tank.

(6) Owners and operators shall ensure that releases from overfills do not occur. Transfer of stored waste may not exceed the volume available in receiving tank and the transfer shall be adequately monitored. Immediate action shall be taken to stop the flow of waste prior to exceeding tank capacity or in the event that an equipment failure occurs.

(7) Tanks shall be installed with the following:

(i) A gauge or monitoring device which accurately indicates the level or volume in the tank and is visible to the individual responsible for the transfer of waste. The monitoring device shall be installed, calibrated and maintained in accordance with manufacturer's specifications.

(ii) A high-level alarm and an automatic high-level cut-off device or a high-level alarm and a manned operator shutdown procedure in operation.

(8) Containment structures shall be compatible with the wastes stored and minimize deterioration to the storage tank system.

(9) Containment areas shall be designed, maintained and constructed in accordance with sound engineering practices adhering to Nationally recognized codes of practice, such as NFPS, NACE, ACI or API and in compliance with State and Federal requirements.

(10) Secondary containment under the tank bottom and around underground piping shall be designed to direct any release to a monitoring point.

(11) Permeability of the secondary containment shall be less than 1×10^{-7} cm/sec at anticipated hydrostatic head.

(12) Aboveground tanks shall have emergency containment structures, such as dike fields, curbing and containment collection systems, which contain releases from overfills, leaks and spills.

(13) Permeability of emergency containment structures shall be less than 1×10^{-6} cm/sec at anticipated hydrostatic head and be of sufficient thickness to prevent the released waste from penetrating the containment structure for a minimum of 72 hours and until the release can be detected and recovered.

(14) Emergency containment areas, such as dike fields, shall be able to contain 110% of the capacity of the largest tank in the containment area.

(15) Stormwater shall be removed from the emergency containment area as soon as possible or when the water is in contact with the tank or piping and prior to the capacity of containment being reduced by 10% or more. Manually operated pumps or siphons and manually oper-

ated gravity drains may be used to empty the containment. If drain valves are used, they shall be secured in the closed position when not in use. Discharge or disposal of wastes from the containment structure shall comply with applicable State and Federal requirements.

(16) Aboveground tank systems shall provide method of leak detection capable of detecting a release. The leak detection method shall be monitored at least monthly and shall be installed, calibrated, operated and maintained in accordance with industry practices and manufacturer's specifications.

(i) The area beneath the tank bottom shall be monitored for leakage by visual, mechanical or electronic leak detection methods.

(ii) Observation wells outside of the secondary containment structure do not satisfy the leak detection requirements.

(c) Underground residual waste storage tanks shall be designed and operated as follows, unless an alternative design is demonstrated to perform at a level equivalent to the requirements of this section and is otherwise approved by the Department:

(1) *Corrosion protection*.

(i) Parts of the system that routinely contain waste shall be protected from deterioration. Parts that are in contact with the ground shall be properly designed, constructed and protected from corrosion in accordance with a code of practice developed by a Nationally recognized association or independent testing laboratory.

(ii) System components constructed of metal do not need additional corrosion protection measures if:

(A) The site is determined by a corrosion expert to not be corrosive enough to cause a release due to corrosion during the systems operating life.

(B) Owners and operators maintain records that demonstrate compliance with clause (A) for the remaining life of the tank system including removal and closure.

(2) *Spill and overfill prevention equipment.*

(i) Except as provided in subparagraph (ii), to prevent spilling and overfilling associated with waste transfer to the underground storage tank system, owners and operators shall ensure that their systems have the following spill and overfill prevention equipment:

(A) Spill prevention equipment that will prevent release of waste to the environment when the transfer hose is detached from the fill pipe.

(B) Overfill prevention equipment that will do one or more of the following:

(I) Automatically shut off flow into the tank before the fittings on the top of the tank are touched by waste.

(II) Restrict the flow into the tank before it is 90% full or 30 minutes before it would be full.

(III) Activate an audible and visible high level alarm before the tank is 90% full or 30 minutes before it would be full.

(ii) Owners and operators are not required to use overfill prevention equipment if the underground storage tank system is filled by transfers of no more than 25 gallons at one time.

(3) *Installation*. Tanks and piping shall be properly installed and system integrity tested in accordance with a code of practice developed by a Nationally recognized association or independent testing laboratory such as API 1615 and PEI RP 100, and in accordance with the manufacturer's instructions.

(4) *Releases due to corrosion*. To ensure that releases due to corrosion are prevented for as long as the underground storage tank system is used to store waste, the owner and operator shall comply with the following requirements:

(i) Corrosion protection systems shall be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain wastes and is in contact with the ground.

(ii) Underground storage tank systems equipped with cathodic protection systems shall be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirements:

(A) *Frequency*. Cathodic protection systems shall be tested within 6 months of installation and at least every 3 years thereafter.

(B) *Inspection criteria*. The criteria that are used to determine that cathodic protection is adequate as required by this section shall be in accordance with a code of practice developed by a Nationally recognized association.

(iii) Underground storage tank systems with impressed current cathodic protection systems shall be checked every 60 days to ensure the equipment is operating properly.

(iv) For underground storage tank systems using cathodic protection, records of the operation of the cathodic protection shall be maintained. These records shall provide the following:

(A) The results of the last three system checks required in paragraph (4)(iii).

(B) The results of testing from the last two inspections required in paragraph (4)(ii).

(5) *Unauthorized or accidental access.* Monitoring and observation wells shall be clearly identified using industry codes and standards and caps shall be secured to prevent unauthorized or accidental access.

(6) *Maintenance.* Sumps, release detection equipment, corrosion protection, spill prevention, overfill prevention and other appurtenances whose failure could contribute to a release of waste, shall be maintained in a good state of repair and shall function as designed.

(7) *Tightness testing.* Systems shall be precision tightness tested after installation and major repairs.

(8) *Monitoring for releases.* Portions of the tank and underground piping that routinely contain waste shall be monitored at least monthly for releases.

(9) *Method evaluation.* The method or combination of methods used shall have been evaluated by an independent third party and shown to be effective in detecting releases.

(10) *Records.* Records documenting the operation of the release detection method shall be made each month and kept for at least 1 year.

STORAGE PILES

§ 299.131. General requirements.

(a) A person or municipality storing residual waste in piles shall prevent the dispersal of residual waste by wind or water erosion.

(b) A person or municipality may not store liquid waste in a residual waste pile.

(c) Unless the storage pile requires a liner system or storage pad under § 299.132 (relating to storage pad or liner system), the residual waste being stored shall be separated from the seasonal high water table by at least 4 feet without the use of a groundwater pumping system. The Department may, in writing, waive this requirement.

(d) A person or municipality storing residual waste in a pile shall design, install and maintain berms around the storage area and other structures or facilities to collect and, when necessary, treat runoff or leachate, or both, from the storage area. The Department may, in writing, waive the berm requirement when other collection methods are in place.

(e) For storage piles without a liner system or storage pad, the Department may require the person or municipality to install a water quality monitoring system in accordance with §§ 288.251—288.255 (relating to water quality monitoring).

IMPOUNDMENTS

§ 299.144. Operating requirements.

(a) A person or municipality that stores residual waste in a surface impoundment shall design, operate and maintain the impoundment in accordance, at a minimum, with the following:

(1) Section 289.202 (relating to certification).

(2) Section 289.223 (relating to access roads).

(3) Sections 289.227 and 289.228 (relating to air resources protection; and nuisance minimization and control).

(4) Section 289.255 (relating to water supply replacement).

(5) Sections 289.261—289.268 (relating to water quality monitoring).

(6) Sections 289.271(a) and 289.272—289.274 (relating to impoundments).

(7) Section 289.312 (relating to closure).

(8) Section 289.522(a)(2), (6) and (7) (relating to areas where Class II residual waste disposal impoundments are prohibited).

(9) Notwithstanding the references to "disposal," § 289.423(a)(1)—(3), (5) and (6) (relating to minimum requirements for acceptable waste) or § 289.523(a)(1)—(8) and (11) (relating to minimum requirements for acceptable waste).

(10) Notwithstanding the references to "disposal," if the residual waste to be stored meets the requirements of § 289.523(a), the following shall be met:

(i) Section 289.532(a)—(c) (relating to general limitations).

(ii) Section 289.533 (relating to subbase).

(iii) Section 289.534 (relating to leachate detection zone).

(iv) Section 289.535 (relating to liner).

(v) Section 289.536 (a)(1) and (b)(1), (2) and (4) (relating to protective cover), except that the protective cover material may be up to 1 inch in diameter.

(11) Notwithstanding the references to "disposal," if the residual waste to be stored does not meet the requirements of § 289.523(a), the following shall be met:

(i) Section 289.432(a)—(c) (relating to general limitations).

(ii) Section 289.433 (relating to subbase).

(iii) Section 289.434 (relating to secondary liner).

(iv) Section 289.435 (relating to leachate detection zone).

(v) Section 289.436 (relating to primary liner).

(vi) Section 289.437(a)(1) and (b)(1), (2) and (4) (relating to protective cover), except that the protective cover material may be up to 1 inch in diameter.

(b) A person or municipality that stores residual waste in a surface impoundment shall remove waste from the impoundment as follows:

(1) Waste removal may not damage the impoundment.

(2) The liner shall be inspected to ensure its integrity, and necessary repairs shall be made prior to returning the impoundment to service.

(3) The person or municipality shall provide for the disposal or processing of the removed waste in accordance with this article.

(4) Waste shall be removed in accordance with the permit.

(5) If the removal frequency is greater than once per year, the removal frequency shall be stated in the permit.

(6) If the removal frequency is less than or equal to once per year, or if no removal frequency is stated in the permit, waste shall be removed from the impoundment annually.

TYPES OF WASTE

§ 299.155. Storage of whole and processed waste tires.

(a) This section and §§ 299.156—299.163 do not apply to persons or municipalities who store less than 500 waste tires in open storage or who store less then 1,500 waste tires in enclosed storage unless the open or enclosed storage threatens or causes harm to the public health, safety, welfare or the environment.

(b) The requirements of this section and §§ 299.156—299.163 may be waived or modified for small piles at the location of waste tire generators.

(c) A person or municipality may not accumulate whole and processed waste tires speculatively or store for longer than 1 year. The actual tons of waste tires removed from a facility shall be verified through weight receipts.

(d) No person or municipality storing whole and processed waste tires shall maintain operational records that provide detailed information in accordance with § 299.112 (relating to design and operation).

§ 299.156. Notice by waste tire storage sites operators.

(a) By January 13, 2001, each operator of a waste tire storage site shall file a notice on a form prepared by the Department which includes the following:

(1) A brief description of the type and number of whole waste tires and the type and weight or volume of processed waste tires being stored at the waste tire storage site.

(2) A brief description of the physical design and layout of the waste tire storage site, including a description of structures used for storing whole and processed waste tires and their locations at the storage site, a diagram of

the locations and approximate sizes of any piles of whole and processed waste tires at the storage site and a description of the location of emergency equipment at the storage site.

(3) The approximate date upon which the operator began to store 500 or more waste tires in open storage or 1,500 or more waste tires in enclosed storage.

(4) Information showing how the operator will comply with § 299.155(c) (relating to storage of whole and processed waste tires).

(5) The address of the storage site and the individual responsible for operating the storage site.

(6) Verification of landowner consent to operate a waste tire storage site.

(b) An operator of a waste tire storage site that is not subject to the requirements of this section, §§ 299.155 and 299.157—299.163 on January 13, 2001, based on § 299.155(a), shall file the notice required by subsection (a) if the waste tire storage site becomes subject to the requirements of this section, §§ 299.155 and 299.157—299.163 after that date.

(c) As of January 13, 2001, no person or municipality operating a waste tire storage site may store whole and processed waste tires at the storage site unless the person or municipality has filed with the Department a notice that is consistent with this section.

§ 299.157. General limitations on storage of whole and processed waste tires.

(a) Indoor storage of whole and processed waste tires shall be consistent with "*The Standard for the Storage of Rubber Tires*," National Fire Protection Association Standard 231D, (NFPA 231D), as amended.

(b) When whole and processed waste tires are stored outdoors, each whole and processed waste tire pile shall:

(1) Cover a surface area not greater than 2,500 square feet.

(2) Have a vertical height not greater than 15 feet.

(3) Maintain corridors as firebreaks on all sides of a tire pile of at least 50 feet. Corridors shall be maintained free from obstructions that could limit access in the event of an emergency.

(4) For shredded or chipped tires stored in piles, cover a surface area of no more than 2,500 square feet, and be no more than 15 feet high. Thirty-five foot wide corridors shall be maintained for firebreaks on all sides of a pile with no point in a pile being more than 25 feet from a firebreak. Corridors shall be kept free from obstructions that could limit access in the event of an emergency.

(5) For baled tires stored in stockpiles, cover a surface area of no more than 5,000 square feet, and may be no more than 15 feet high. Thirty-five foot wide corridors shall be maintained for firebreaks on all sides of a pile with no point in a pile being more than 25 feet from a firebreak. Corridors shall be kept free from obstructions that could limit access in the event of an emergency.

(6) The firebreaks shall be free of waste, equipment and structures, and vegetation shall be maintained below 6 inches in length at all times.

(7) Outdoor storage of whole and processed waste tires shall be conducted to prevent the discharge of fire-generated oils and liquids into the surface water and groundwater of this Commonwealth.

(8) Outdoor storage of whole and processed waste tires shall be conducted to control mosquito propagation during warm weather. Controls may include use of tarps, indoor storage screens or spraying.

(9) A copy of a Preparedness, Prevention and Contingency (PPC) plan, that is consistent with the Department's most recent guidelines, shall be prepared and maintained at the waste tire storage facility and be updated annually. The applicable provisions of the Department approved PPC plan shall be immediately implemented for any emergency that affects or threatens public health, safety, welfare or the environment.

(c) Storage of whole and processed waste tires which occurs at a permitted processing or disposal facility shall be covered under the permit, and is limited to the total number or amount of whole and processed waste tires which can be processed or disposed by the permitted facility during a year. The processing or disposal permit shall incorporate the requirements of this subchapter.

(d) A waste tire storage site may not be greater than 5 acres in total area.

(e) Owners or operators of waste tire storage sites may not maintain additional storage areas on contiguous property.

§ 299.158. Areas where storage of whole and processed waste tires prohibited.

A person or municipality may not store whole and processed waste tires:

(1) In the 100 year floodplain of any waters of this Commonwealth, unless the Department approves a method of protecting the facility from a 100 year flood consistent with the Flood Plain Management Act (32 P. S. §§ 679.101—679.601), the Stormwater Management Act (32 P. S. §§ 680.1—680.17) and the Dam Safety and Encroachment Act (32 P. S. §§ 693.1—693.27).

(2) In or within 300 feet of an exceptional value wetland.

(3) In or within 100 feet of a wetland other than an exceptional value wetland.

(4) Within 300 feet measured horizontally from an occupied dwelling, unless the owner thereof has provided a written waiver consenting to the activities being closer than 300 feet.

(5) Within 100 feet of a sinkhole or area draining into a sinkhole.

(6) Within 100 feet of a perennial stream.

(7) Within 300 feet of a water source.

(8) Within 50 feet of a property line unless the owner has provided a written waiver consenting to the facility being closer than 50 feet.

§ 299.159. Access control.

(a) A gate or other barrier shall be maintained at all potential vehicular access points to block unauthorized access to the site when an attendant is not on duty.

(b) The operator shall construct and maintain a fence or other suitable barrier around the area sufficient to prevent unauthorized access.

(c) Access to the site shall be limited to those times when an attendant is on duty.

§ 299.160. Hazard prevention.

(a) Persons or municipalities storing whole and processed waste tires shall design, construct, maintain and

operate the storage site to prevent and minimize the potential for fire, explosion or release of solid waste constituents to the air, water or soil of this Commonwealth or threaten public health or safety, public welfare or the environment.

(b) A person or municipality may not cause or allow the open burning of whole and processed waste tires.

(c) Each person or municipality storing whole and processed waste tires shall have available in proper working condition equipment that will control, contain and suppress fires or other hazards. The equipment shall include the following at the storage site unless otherwise approved by the Department in writing:

(1) An internal communications or alarm system capable of providing immediate emergency instructions by voice or signal to facility personnel.

(2) A communications system capable of summoning emergency assistance from local police, fire Departments, emergency medical services, and from State and local emergency response agencies.

(3) Portable fire extinguishers and suitable fire control equipment.

(4) Available water, at sufficient volume and pressure and suitable foam agent (3%—6% mixture) and application equipment at the storage site (or an agreement with the local fire Department to provide the equipment) to temporarily contain a fire at the facility until emergency personnel arrive.

(5) Equipment sufficient in size and design to provide timely movement of tires and tire derived materials in case of an emergency.

(6) For indoor tire storage, an active fire suppression system in the building.

(d) The operator of a waste tire storage site shall immediately implement the applicable provisions of the Preparedness, Prevention and Contingency (PPC) plan if there is a fire or other event that threatens public health, safety, welfare or the environment or threatens personal injury. In addition, the operator shall immediately:

(1) Assess actual or potential hazards to public health, safety, welfare or the environment that are occurring or may occur.

(2) Ensure that fires or other hazards do not occur, reoccur or spread to other solid waste at the storage site.

(3) Telephone the Department and county emergency management agency and report the following information:

(i) The name of the person reporting the incident and telephone number where that person can be reached.

(ii) The name and address of the storage site.

(iii) The date, time and location of the fire or other event that threatens the public health, safety, welfare or the environment.

(iv) A brief description of the event being reported, the type of solid waste involved and what dangers to public health, safety, welfare or the environment exist or may occur.

(v) The nature of any injuries.

(vi) Parts of the PPC plan being implemented to alleviate the situation.

(3) After a fire or other emergency, the operator of a waste tire storage site shall:

(i) Remediate the area affected by the emergency and treat, store or dispose of recovered solid waste, contaminated soil, contaminated water or other material in a manner approved by the Department.

(ii) Prevent disposal, processing, storage or treatment of solid waste in the area affected by the emergency until the operator has remediated the area, and the Department has inspected and approved the remediation.

§ 299.161. Soil and water protection.

(a) Surface water runoff from storage areas shall be minimized. Collection of surface water runoff shall be managed in accordance with The Clean Streams Law and the regulations thereunder.

(b) Surface water run-on to storage areas shall be minimized.

(c) Whole and processed waste tires may not be stored so as to cause adverse affects on groundwater.

(d) The Department may require a person or municipality that stores whole and processed waste tires to conduct soil or groundwater monitoring, or both.

§ 299.162. Annual report for waste tire storage sites.

(a) Each person or municipality that stores whole and processed waste tires shall submit to the Department an annual operation report on or before June 30 of each year. The report shall include:

(1) The weight and approximate number of whole and processed waste tires that were being stored at the storage site on January 1 of the preceding calendar year, and the approximate number of whole and processed waste tires that were being stored at the storage site on December 31 of the preceding calendar year.

(2) The weight and approximate number of whole and processed waste tires that were received at the storage site in the preceding calendar year, the person and location from which they were shipped and the name of the transporter.

(3) The weight and approximate number of whole and processed waste tires that were shipped from the site in the preceding calendar year, the person and location to which they were shipped and the end use for which they were shipped.

(b) The annual report shall be based on a daily operational record, which shall be maintained by the person or municipality storing waste tires for each day that waste tires are received or transported off the storage site.

(c) All numbers and weights shall be reported in Passenger Tire Equivalents (PTE), with 1 PTE equal to 20 pounds.

§ 299.163. Cessation of operations.

Upon cessation of whole and processed waste tire storage activities, the operator shall immediately remove all whole and processed waste tires from the storage site, and provide for the processing or disposal of the waste in accordance with the act, the environmental protection acts and this title.

Subchapter B. STANDARDS FOR COLLECTING AND TRANSPORTING OF RESIDUAL WASTE

SCOPE

§ 299.201. Scope.

(a) A person or municipality that transports residual waste that is not mixed with waste that is regulated

under Article VIII (relating to municipal waste) shall comply with §§ 299.11—299.221 (relating to general provisions). In addition, a person or municipality that transports waste referred to in §§ 299.231 and 299.232 (relating to types of waste) shall transport the waste in accordance with the applicable provisions of these sections, and may not mix the waste with other types of waste.

(b) A person or municipality that transports residual waste that is mixed with waste that is regulated under Article VIII shall comply with §§ 285.211—285.219 (relating to general provisions).

GENERAL PROVISIONS

§ 299.219. Recordkeeping and reporting.

(a) A person or municipality that transports residual waste shall make and maintain an operational record for each day that residual waste is collected or transported, or both. The daily operational record shall be kept in the cab of each transportation vehicle on the date of collection or transportation. The record shall include the following:

(1) The types or classifications of residual waste transported.

(2) The weight or volume of the types of wastes transported.

(3) The name, mailing address, telephone number, county and state of each generator of transported waste.

(4) The name and location of a transfer facility that has received, or will receive, the waste.

(5) The name and location of the solid waste processing or disposal facility where the waste will be ultimately disposed or processed.

(6) A description of handling problems or emergency disposal activities.

(7) The name and address of he person or municipality collecting or transporting the waste.

(8) The license plate number of the trailer transporting the waste.

(b) The records required in subsection (a) shall be made available to the Department upon request and shall be retained for at least 5 years.

§ 299.220. Signs on vehicles.

A vehicle or conveyance that is ordinarily or primarily used for the transportation of solid waste shall bear a sign that meets the following:

(1) The sign shall include the name and business address of the person or municipality that owns the vehicle or conveyance.

(i) The name shall be the actually and commonly recognized name of the person or municipality. Abbreviations or acronyms are permissible if they do not obscure the meaning.

(ii) The address shall include the city, state and five digit zip code for the principal place of business for the person or municipality.

(2) The sign shall include the specific type of solid waste transported by the vehicle or conveyance.

(i) Infectious or chemotherapeutic waste shall be designated: Infectious/Chemotherapeutic waste.

(ii) Other municipal waste shall be designated: Municipal Waste.

(iii) Residual waste shall be designated: Residual Waste.

(iv) Mixed municipal and residual waste shall be designated: Municipal/Residual Waste.

(3) The sign shall have lettering that is 6 inches in height. The lettering shall be placed on the roll-off box or trailer. If available space for lettering on the trailer or roll-off box is so limited that all letters cannot be 6 inches in height, the lettering shall be as close to 6 inches as possible. The required information shall be clearly visible and easily readable.

(4) The sign may be permanent or detachable.

§ 299.221. Transporting foodstuffs and feedstuffs in vehicles used to transport waste.

(a) A person or municipality may not transport, or knowingly provide a vehicle for the transportation of, a food product or produce intended for human or livestock consumption, in a vehicle which has been used to transport municipal, residual or hazardous waste, or, chemical or liquid, in bulk, which is not a food product or produce.

(b) A person or municipality may not knowingly accept a food product or produce from, or provide a food product or produce to, a vehicle used to transport municipal, residual or hazardous waste, or, chemical or liquid, in bulk, which is not a food product or produce.

(c) As used in this section, the following words and phrases have the following meanings:

(1) *Food product or produce*—A raw, cooked or processed edible substance, beverage or ingredient used or intended for use or for sale, in whole or in part, for human consumption.

(2) *In bulk*—Not divided into parts or packaged in separate units.

(3) *Chemical or liquid*—The term includes any chemical or liquid, including any pesticide or herbicide regardless of its use or intended use. The term does not include the following:

(i) A chemical or liquid food product or produce.

(ii) A chemical or liquid being transported for use directly in the production and preparation for market of poultry, livestock and their products or in the production, harvesting or preparation for market of agricultural agronomic, horticultural, silvicultural or aquacultural crops and commodities.

(iii) A chemical or liquid being transported for use as an ingredient in a product used in the production and preparation for market of poultry, livestock and their products or in the production, harvesting or preparation for market of agricultural, agronomic, horticultural, silvicultural or aquacultural crops and commodities.

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