

vii. With the approval of the Department, the owner and/or operator of the landfill may establish a secured drop-off and/or transfer area for the acceptance of asbestos and asbestos containing waste materials (ACWM) separate and apart from the disposal areas described in (l)2i and ii above. The owner and/or operator shall ensure that the container used for drop-off and/or transfer is fully enclosed and located on an impermeable surface. No person other than facility personnel or a licensed commercial asbestos removal contractor may load the asbestos or asbestos-containing waste materials into the container used for drop-off and/or transfer.

3. Either there shall be no visible air emissions during or after acceptance and disposal to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of (l)3i or ii below shall be met.

i. Rather than meet the no visible emission requirement of this paragraph, the owner and/or operator of the sanitary landfill shall ensure that the asbestos or asbestos-containing waste material that has been deposited at the site shall:

(1) Be covered with at least six inches of compacted non-asbestos-containing material; or

(2) Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Department. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

ii. Rather than meet the no visible emission requirement of this paragraph, the owner and/or operator of the sanitary landfill may use an alternative emissions control method that has received prior written approval by the Department.

4. The requirements in this subsection do not apply to asbestos and asbestos containing waste materials generated in a renovation or demolition project wherein the total project involves less than 260 feet of asbestos-coated pipe or less than 160 square feet of asbestos-coated surface, such as ducts, boilers, tanks, structural members and the like.

Amended by R.1989 d.216, effective April 17, 1989.

See: 20 N.J.R. 2668(a), 21 N.J.R. 1002(b).

CFR cites updated.

Administrative Correction, effective February 5, 1990: Deleted incorrectly-cited text.

See: 22 N.J.R. 382(b).

Amended by R.1996 d.578, effective December 16, 1996.

See: 28 N.J.R. 2114(a), 28 N.J.R. 5248(a).

Substantially amended section.

Case Notes

Rules and regulations for sound operation and closure of landfills were violated and warranted imposition of civil administrative penalty. *VA Associates v. Department of Environmental Protection and Energy*, 95 N.J.A.R.2d (EPE) 120.

7:26-2A.9 Closure and post-closure care of sanitary landfills

(a) This section shall govern the closure and post-closure care of all sanitary landfills. This section includes requirements for the preparation of a Closure and Post-Closure Plan, as defined in (d)1 below, for all new sanitary landfills and every sanitary landfill operating on or after January 1, 1982. It also establishes requirements concerning establishment and use of both the BPU and the DEP escrow accounts required pursuant to the Sanitary Landfill Facility Closure and Contingency Fund Act, N.J.S.A. 13:1E-100 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., for every sanitary landfill operating on or after January 1, 1982.

(b) The following words and terms, when used in this section shall have the following meanings. Where words and terms are used which are not defined herein, the definitions of those words and terms will be the same as the definitions found in the Department rules, N.J.A.C. 7:26-1.4:

“Accredited financial institution” means any commercial bank, savings bank or savings and loan association with its principal office located in the State of New Jersey, and insured by the Federal Savings and Loan Insurance Corporation or the Federal Deposit Insurance Corporation.

“Closure” means the construction and implementation of all environmental safeguards required by law or by the sanitary landfill’s approved Closure and Post-Closure Plan and the facility’s approved engineering design subsequent to the termination of operations at any portion of that facility. Closure may include but is not limited to all activities and costs associated with the design, purchase, construction and maintenance of all items in order to prevent, minimize or monitor pollution or health hazards resulting from sanitary landfills subsequent to the termination of operations at any portion thereof, including but not necessarily limited to, the costs of placement of acceptable cover, the installation of methane gas monitoring, venting, or evacuation systems, the installation and monitoring of wells or leachate collection and control systems at the site or in the vicinity of any sanitary landfill.

“Closure period” means, unless otherwise specified, the period beginning after the landfill or a portion thereof has ceased to accept waste or the period as determined by the Department.

“Escrow account” means an interest-bearing account with an accredited financial institution as escrow agent, wherein funds shall be deposited by the owner or operator of every

sanitary landfill pursuant to N.J.S.A. 13:1E-100 et seq., and this section. This account shall be based upon the standard escrow agreement provided by the Department for execution by and between the escrow agent and the owner or operator of the sanitary landfill. There shall be only one escrow account for each sanitary landfill, unless otherwise authorized by the Department.

“Liquidity” means that availability of funds for draw-downs consistent with a landfill’s approved closure plan, or, if there is no approved closure plan, consistent with the Department’s closure strategy for the landfill facility.

“Owner or operator” means and includes, in addition to the usual meanings thereof, every owner of record of any interest in land where on a sanitary landfill facility is or has been located, and any person, partnership or corporation which owns a majority interest in any other corporation which is the owner or operator of any sanitary landfill.

“Post-closure care” means those activities necessary to maintain and monitor a sanitary landfill in accordance with an approved engineering design and applicable laws and regulations after the landfill has been properly closed.

(c) General closure and post-closure care requirements are as follows:

1. Every owner or operator of a sanitary landfill shall be jointly and severally liable for the proper operation and closure of the sanitary landfill, as required by law, and for any damages, no matter by whom sustained, proximately resulting from the operations and closure.

2. The owner or operator of a sanitary landfill shall notify the Department in writing of his intention to suspend or terminate operations at that landfill. The Department shall receive notice at least 10 days prior to the date of suspension of operations, which notice shall include the duration of the suspension, and shall receive notice at least 180 days prior to the date of termination of operations.

3. No person shall contract to sell any land which has been utilized as a sanitary landfill facility at any time unless the contract of sale for the land describes such use and the period of time that the land was so utilized, as required in (c)4 below. Upon written request, any prospective purchaser of such land may obtain from the Department a history of the compliance by the landfill with all applicable statutes, rules and regulations administered by the Department.

4. Upon closure of the sanitary landfill, a detailed description of the landfill shall be recorded, along with the deed, with the appropriate county recording office. The description shall include the general types, locations, and depths of wastes on the site, the depth and type of cover material, the dates the landfills were in use and all such other information as may be of interest to potential landowners, and shall remain in the record in perpetuity.

5. The post-closure care period shall continue for 30 years after the date of completing closure of the sanitary landfill or as the following conditions apply:

i. The Department may reduce the post-closure care period to less than 30 years when it has been adequately demonstrated that the reduced period is sufficient to protect human health and the environment;

ii. Prior to the time that the post-closure care period is due to expire, the Department may extend the post-closure care period upon a finding that such extended period is necessary to protect human health and/or the environment; and

iii. Any aggrieved person may petition the Department for an extension or reduction of the post-closure care period, based on good cause.

6. If the Department intends to reduce or extend the post-closure care period to less than or more than 30 years, public notice of that intention shall be provided.

(d) General requirements for a Closure and Post-Closure Plan are as follows:

1. No person shall construct or operate a sanitary landfill without an approval from the Department of a Closure and Post-Closure Plan. Such Plan shall consist of both a Closure and Post-Closure Care Plan and a Closure and Post-Closure Financial Plan in accordance with the provisions of (e) and (f) below, except as otherwise authorized by the Department.

2. The submission for approval by the Department of the Closure and Post-Closure Plan shall be made upon application for new sanitary landfill permit.

3. Existing sanitary landfills in operation after January 1, 1982 shall submit the Closure and Post-Closure Plan for approval by the Department in accordance with the following schedule:

i. Those sanitary landfills which ceased accepting waste during calendar year 1982 or which shall cease accepting waste during calendar year 1983 shall submit a Plan no later than three months from the effective date of this section;

ii. Those sanitary landfills not included in (d)3i above and which accept in excess of 100,000 cubic yards of waste per year, as delivered, shall submit a Plan no later than six months from the effective date of this section; and

iii. All remaining sanitary landfills not provided for in (d)3i and ii above shall submit a Plan no later than 12 months from the effective date of this section.

4. No owner or operator shall submit a Closure and Post-Closure Care Plan for approval which includes any unauthorized expansion of the proposed or actual sanitary landfill operation.

5. Any owner or operator who fails to submit the Closure and Post-Closure Plan, as required by this subsection, shall be subject to denial, revocation or suspension of the registration of the sanitary landfill and other regulatory or legal actions which the Department is allowed to institute by law.

6. The owner or operator may apply for Departmental approval to amend the Closure and Post-Closure Plan at any time during the sanitary landfill's operation, closure or post-closure care period.

7. The Department may require the amendment of an engineering design and a Closure and Post-Closure Plan at any time it is deemed necessary during the sanitary landfill's operation, closure or post-closure care period.

8. Any sanitary landfill that is closed under the provisions of this section shall be maintained in accordance with the approved Closure and Post-Closure Plan and must remain in compliance with all regulations of this subchapter.

9. A copy of the approved Closure and Post-Closure Plan shall be kept on file at the sanitary landfill during the course of the sanitary landfill's operation and, after closure, shall be filed with the municipal clerk.

10. Within six months of closure of the sanitary landfill, the owner and/or operator of the sanitary landfill shall obtain and submit to the Department an "as-built" certification by a New Jersey licensed professional engineer, certifying that each provision of the Closure and Post-Closure Plan has been implemented as designed and approved, subject to the following requirements:

i. A New Jersey licensed professional engineer shall certify, in writing, to the Department that he or she has supervised the inspection of the construction of each major phase of the sanitary landfill's closure. He or she shall further certify that each phase has been prepared and constructed in accordance with the closure design approved by the Department. The certification shall include as-built drawings.

ii. A New Jersey licensed professional engineer shall certify that the materials utilized in the closure of the sanitary landfill are in conformance with and meet the specifications of the approved closure design.

iii. There shall be no deviation from the approved closure design without the prior written approval of the design engineer and, at a minimum, prior verbal approval by the Department.

iv. All certifications shall bear the raised seal of the New Jersey licensed professional engineer, his or her signature, and the date of certification.

v. The certification shall include the following statement: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments

and that, based on my inquiry of those individuals under my supervision, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I understand that, in addition to criminal penalties, I may be liable for civil administrative penalty pursuant to N.J.A.C. 7:26-5 and that submitting false information may be grounds for denial, revocation or termination of any solid waste facility permit or vehicle registration for which I may be seeking approval or now hold."

(e) The Closure and Post-Closure Care Plan shall meet the following specific requirements:

1. The owner or operator of every sanitary landfill shall submit to the Department a Closure and Post-Closure Care Plan prepared, signed and sealed by a New Jersey licensed professional engineer to provide for closure and post-closure care of the sanitary landfill;

2. The Closure and Post-Closure Care Plan shall provide for the design and implementation of the following:

i. A Soil Erosion and Sediment Control Plan certified by the local soil conservation district in accordance with the Soil Erosion and Sediment Control Act of 1975, as amended (N.J.S.A. 4:24-39 et seq.);

ii. Final cover;

iii. Final cover vegetation;

iv. A program for the maintenance of final cover and final cover vegetation;

v. A program for the maintenance of side slopes;

vi. Institution of run-on and run-off control programs;

vii. A program for the maintenance of run-on and run-off control programs;

viii. Groundwater monitoring wells;

ix. A program for the maintenance of groundwater monitoring wells;

x. A program for the monitoring of groundwater in accordance with NJPDES rules, N.J.A.C. 7:14A, and any permit for that sanitary landfill issued pursuant thereto;

xi. A methane gas venting or evacuation system;

xii. A program for the maintenance of methane gas venting or evacuation system;

xiii. A leachate collection and/or control system;

xiv. A program for the operation and maintenance of a leachate collection and/or control system;

xv. A program for the installation of a facility access control system;

xvi. A program for the maintenance of the facility access control system;

xvii. Measures to conform the site to the surrounding area;

xviii. A program for the maintenance of measures to conform the site to the surrounding areas;

3. The Department may require additional closure and post-closure care measures or waive any of the above requirements, should specific health and/or environmental circumstances justify such action; and

4. The Closure and Post-Closure Care Plan shall include a schedule for the implementation of all the provisions of this section.

(f) The Closure and Post-Closure Care Financial Plan shall meet the following specific requirements:

1. The owner or operator of every sanitary landfill shall submit a Closure and Post-Closure Financial Plan to the Department which shall set forth the costs and expenses, and establish the means for meeting those costs and expenses, associated with full implementation of the approved Closure and Post-Closure Plan.

2. The Closure and Post-Closure Financial Plan shall include an estimate which details the cost of each provision of the Closure and Post-Closure Care Plan and a projection of funds that will be available from the escrow account. Where the total expenses projected for the Closure and Post-Closure Care Plan exceed the amount of funds projected in the escrow account, the owner or operator must identify specific alternative funds which are to be dedicated to ensure payment of all costs identified in the Closure and Post-Closure Plan. The Plan shall provide:

i. That no withdrawals may be made from the escrow account until such time as the funds projected in the escrow account are sufficient to pay for all closure costs identified in the Closure and Post-Closure Financial Plan; or

ii. That withdrawals may be made from the escrow account concurrent with the use of the alternative funds described above, provided that such alternative funds are established in a manner similar to the escrow account and the expenditures from such alternative funds are made subject to the approval of the Department.

3. The Closure and Post-Closure Financial Plan shall include an estimate which details the general and administrative costs, including but not limited to, fees for engineering, legal, accounting, auditing and banking services, property and sales taxes, environmental impairment and general liability insurance, Department permits and review fees, and utility costs.

i. The costs in (f)3 above for non-construction and/or maintenance services are allowable for reimbursement from the escrow accounts provided that:

(1) The costs are necessary and attendant to further the closure and post-closure requirements of the sanitary landfill;

(2) The Closure and Post-Closure Plan includes provisions for these costs and they are fully funded; and

(3) The projected costs are the same as or comparable to the costs for similar services.

ii. If there are insufficient funds available to complete the sanitary landfill's closure and post-closure requirements, as set forth in the Closure and Post-Closure Plan, reimbursement of costs for environmentally necessary construction and/or maintenance activities will take priority over general and administrative costs, unless otherwise approved in advance by the Department.

iii. The Department shall not disburse money from the escrow account for the expenses incurred by the owner and/or operator of the sanitary landfill in an effort to challenge, contest or defy the Department's rules and regulations, and any permits or orders issued pursuant thereto.

4. The Closure and Post-Closure Financial Plan shall include the intervals at which each closure provision is to be implemented as well as a projection of when each escrow account withdrawal is anticipated.

5. The Financial Plan shall take into consideration the effect of inflation on closure and post-closure expenses. Unless otherwise approved, the owner or operator shall calculate the latest closure cost estimate using a calculated adjusted inflation factor derived from the annual Implicit Price Deflator for the Gross National Product as published by the U.S. Department of Commerce in its "Survey of Current Business." The adjusted inflation factor shall be the 10-year moving average inflation rate (average annual percentage) for the most current 10-year period of Gross National Product Implicit Price Deflators, for example, 1974 compared with 1984 or 116.50 compared with 223.43 which yields a 6.73 percent average annual percentage change. The adjusted annual closure cost estimate shall equal the latest closure cost estimate times the adjusted average inflation factor.

6. The owner or operator shall review the cost estimate every two years and, if necessary, revise the Closure and Post-Closure Financial Plan. The updated Financial Plan shall be submitted on the second anniversary of the date of the Financial Plan was last approved.

(g) Pursuant to N.J.S.A. 13:1E-100, et seq. the requirements for the escrow account are as follows:

1. The owner and/or operator of every sanitary landfill shall deposit in an escrow account as defined in (a) above, on or before the 20th of each month, an amount equal to \$1.00 per ton of solids and \$0.004 per gallon of liquids of all solid waste accepted for disposal during the preceding month. It is noted that disposal of liquid waste in sanitary landfills is limited to only those few facilities permitted to accept such waste;

2. In the event that a measure other than the "ton" or "gallon" is used by the owner and/or operator of a sanitary landfill, the amount to be deposited shall be calculated by using equivalents established by the Division of Taxation;

3. Upon approval of the Department, those sanitary landfills which by the nature of their operation do not have the ability to measure the waste received in the manner provided for in this section may compute quantities of waste received by using an alternative, acceptable method;

4. The escrow account shall be for the closure and post-closure care of a particular sanitary landfill and all funds therein shall be used exclusively for the closure and post-closure care of that landfill in accordance with the approved Closure and Post-Closure Plan.

5. The owner or operator of a sanitary landfill who shall fail to deposit funds into an escrow account, as provided herein, or uses those funds for any purpose other than closure and post-closure care costs, as approved by the Department, shall be guilty of a crime of the third degree.

6. Where an owner or operator has ownership or control over more than one sanitary landfill, a separate escrow account must be established for each facility;

7. The escrow account shall be kept separate and apart from all other accounts maintained by the owner or operator. The fact that the owner or operator has previously established an escrow account pursuant to another law, rule or regulation, does not relieve them of their responsibility to establish an escrow account under these rules;

8. Every escrow account established pursuant to this section shall be based upon and governed by the standard escrow agreement provided for such purpose by the Department. Any revision to an escrow agreement shall first be approved by the Department and filed by the Department with the accredited financial institution as escrow agent. A copy of the standard escrow agreement provided by the Department may be obtained from the Office of Special Funds Administration, Department of Environmental Protection, PO Box 402, 428 East State Street, Trenton, N.J. 08625-0402.

9. The escrow agreement and any other document(s) evidencing the existence of the escrow account must contain a reference to the purpose of the account that will

put the personal creditors of the owner or operator on notice as to the nature of the account.

10. The escrow account shall be established and maintained so as to maximize yield, minimize risk and maintain liquidity, and shall be subject to the approval of the Department.

11. All funds deposited in the escrow account must be readily available in the event that circumstances necessitate the closure or post-closure care of the sanitary landfill prior to the date originally contemplated.

12. All interest or other income that results from investment of funds in the escrow account shall be deposited into the escrow account and subjected to the same restrictions as the principal;

13. Withdrawals from the escrow account shall be authorized by the Department upon submission and approval of a written request therefor which identifies the specific provision(s) of the Closure and Post-Closure Plan for which funding is sought. Authorization for such withdrawal will be granted only in accordance with the approved Closure and Post-Closure Care Plan, and after compliance with the following conditions:

i. The owner or operator has complied with all requests to amend the Closure and Post-Closure Plan;

ii. Except as otherwise authorized by the Department, the owner and/or operator submits to the Department, pursuant to (e)5 above, "as built" certifications by a New Jersey licensed professional engineer that the applicable provision(s) of the Closure and Post-Closure Plan for which the preceding withdrawal was obtained has been, or is being, implemented as set forth in the Closure and Post-Closure Plan; and

iii. Where the Department has approved a Closure and Post-Closure Financial Plan providing for the use of alternative funds pursuant to (f)2ii above, withdrawals from the escrow account will only be authorized to the extent that the cost exceeds the balance of the alternative fund. Where the alternative fund is an account, the Department shall allow the maintenance of the minimum balance necessary to keep such account open.

14. No withdrawals from an escrow account may be made without written approval of the Department, except as otherwise authorized by the Department;

15. The Department may withhold disbursements for closure or post-closure work performed if the amount to be expended in any calendar year exceeds or is projected to exceed the amount budgeted for any line item provision in the closure plan, by more than five percent of the line item, as updated biennially in accordance with (f)5 above. The owner and/or operator shall seek and obtain Department approval prior to expending funds which exceed or are projected to exceed budgeted costs, by letter, including revised financial schedules, identifying

the overage or projected overage, the reasons for the overage and the source of the funds to cover the overage. The Department shall approve or deny disbursements based on the rationale provided by the owner and/or operator and the long term impact on closure or post-closure.

16. The Department, although acknowledging the need for fund expenditure totalling a specific sum may, at its discretion, grant approval for the withdrawal of only a portion thereof, conditioning subsequent approvals upon the owner or operator's verification that the sum(s) authorized have been used solely for closure or post-closure care costs;

17. The Department may, at its discretion, determine that there is a need for closure or post-closure care expenditures and may require the owner or operator to withdraw such funds from the escrow account at any time to meet such expenses;

18. Funds remaining in the escrow account after complete and proper closure and post-closure care operations shall be paid into the Sanitary Landfill Facility Contingency Fund. A sanitary landfill will be deemed to be properly and completely closed where the Department determines that no further post-closure care maintenance or monitoring is necessary at the facility. When the Department makes such a determination, it shall notify the escrow agent and the owner or operator of the determination and shall supply the owner or operator with written approval for the transfer of the excess funds. Upon receipt of this written approval, all funds in said account shall be transferred to the Sanitary Landfill Facility Contingency Fund established pursuant to N.J.S.A. 13:1E-100 et seq. and the account will be closed;

19. The escrow account shall not constitute an asset of the owner or operator and shall be established in such a manner as to ensure that the funds in the account will not be available to any creditor other than the Department in the event of bankruptcy or reorganization of the owner or operator.

20. The owner and/or operator of every sanitary landfill must arrange, with the financial institution wherein the funds are to be deposited, for a monthly statement of the escrow account to be sent to Landfill Closure Escrow Account, Bureau of Solid Waste Regulation, Department of Environmental Protection, PO Box 414, Trenton, New Jersey 08625-0414; provided, however, the Department may at its discretion upon written petition from the owner and/or operator relieve the owner and/or operator from the requirement for the monthly statement of the escrow account and substitute a quarterly (that is, once every three months) statement requirement therefor if it determines that monthly reporting on an account of less than \$25,000 would impose an unnecessary burden on the financial institution;

21. The owner or operator of every sanitary landfill shall file with the Department, in duplicate, an annual audit of the escrow account established for the closure of the sanitary landfill. The annual audit of the escrow account shall be conducted by a New Jersey certified public accountant and shall be filed with the Department no later than October 31 of each year, including each of the post-closure care period years. For the purposes of the escrow account only, the fiscal year shall begin on October 1 and terminate on September 30 of the following year, except that fiscal year 1982 shall begin on January 1, 1982 and terminate on September 30, 1982;

22. The owner or operator of every sanitary landfill facility shall file, on or before the 20th of every month, with the Office of Special Funds Administration, Landfill Closure Escrow Account, Department of Environmental Protection, PO Box 402, 428 East State Street, Trenton, New Jersey 08625-0402, a statement showing the exact amounts of all solid waste accepted for disposal during the preceding month, the total amounts of solid waste received calendar year-to-date, the funds deposited in and withdrawn from the escrow account for the particular sanitary landfill during the current month, interest accrued, escrow account balance, and the total calendar year-to-date funds deposited in and withdrawn from the escrow account. These statements shall be filed on forms provided by the Department; provided, however, the Department may at its discretion upon written petition from the owner or operator relieve the owner or operator from the requirement for monthly reports and substitute a quarterly (that is, once every three months) reporting requirement therefor, if it determines that the monthly reporting on an account of less than \$25,000 would impose an unnecessary burden on the owner or operator.

Correction: (g)20 and 21 were inadvertently omitted from code.

See: 19 N.J.R. 1341(b).

Notice of action on petition for rulemaking; disbursement of escrow funds.

See: 28 N.J.R. 1076(c).

Amended by R.1996 d.578, effective December 16, 1996.

See: 28 N.J.R. 2114(a), 28 N.J.R. 5248(a).

Substantially amended section.

Petition for Rulemaking.

See: 30 N.J.R. 2304(b).

Case Notes

Regulations adopted applied only to operating and not to closed landfills. *Vi-Concrete Co. v. State*, Dept. of Environmental Protection, 115 N.J. 1, 556 A.2d 761 (1989).

State Department of Environmental Protection may install and maintain monitoring wells on closed landfill. *Vi-Concrete Co. v. State*, Dept. of Environmental Protection, 115 N.J. 1, 556 A.2d 761 (1989).

Amounts taxpayers spent to cleanup pollutant spill were not considered in determining "true value" for tax assessment. *Inmar Associates, Inc. v. Borough of Carlstadt*, 214 N.J.Super. 256, 518 A.2d 110 (App. Div.1986) affirmed in part, reversed in part 112 N.J. 593, 549 A.2d 38 (1988).

Operator of sanitary landfill was liable for certain taxes and escrow accounts on solid waste disposed in its facilities and accepted pursuant to joint order issued by Department of Environmental Protection and Board of Public Utilities that required landfill to remain open beyond its intended closing date. *Edgeboro Disposal, Inc. v. Division of Taxation, Dept. of Treasury*, 15 N.J.Tax 139 (A.D.1993).

Rules and regulations for sound operation and closure of landfills were violated and warranted imposition of civil administrative penalty. *VA Associates v. Department of Environmental Protection and Energy*, 95 N.J.A.R.2d (EPE) 120.

APPENDIX A

GUIDELINES FOR A GROUND WATER MODELING EFFORT

1. The model of use must have a history that documents its ability to represent real world situations. In addition it should also be demonstrated that the model of choice has the ability for proposed management of ground water resources.

2. The set of equations, that govern ground water flow and pollutant, and the derivations of these equations must be presented.

3. The numerical methods used to solve the set of ground water flow and pollutant transport equations must be presented.

4. The Boundary Conditions and Initial Conditions used in solving the ground water flow and pollutant transport equation sets should be presented both mathematically and in narrative form.

5. A technical narrative describing the model to be used and a justification for the application of this to the specific problem should be presented. This should include whether the model is finite element, finite difference or some other scheme. The objective of the model should be stated up front.

6. The unknown quantities that the model is solving for should be described and explained. In addition those parameters derived from the initial unknown quantities should also be described and explained.

7. Appropriate analytical methods should be used to verify the validity of the numerical technique used to solve the flow equations in the model.

8. A sensitivity study of the error tolerance used and modal spacing needs to be conducted. The results should be presented and explained.

9. Perform mass balance calculations on selected elements in the model to verify physical validity.

10. The model must be calibrated against field data. It is important to note that if there is insufficient field data available for calibration then the model will extrapolate values of unknown accuracies. This is particularly impor-

tant since there is no one unique solution to a model and the most accurate solution (that closest to the real world situation) is a result of sufficient field data collection and model calibration with that data. It often takes more than 25 runs with the same data to properly calibrate a model to the real world situation. The level of field data considered to be sufficient should be agreed to before the modeling effort is initiated.

11. Limits and confidence on model predictions should be established and stated in the beginning of the modeling report.

12. All inputs and outputs to the computer program should be listed and explained in technical narrative.

SUBCHAPTER 2B. ADDITIONAL, SPECIFIC DISPOSAL REGULATIONS FOR THERMAL DESTRUCTION FACILITIES, TRANSFER STATIONS, MATERIALS RECOVERY FACILITIES, CO-COMPOSTING AND SOLID WASTE COMPOSTING FACILITIES

7:26-2B.1 Scope and applicability

(a) This subchapter shall constitute the rules of the Department governing the design, construction, operation and maintenance of the following types of disposal facilities:

1. Thermal destruction facilities which dispose of non-hazardous solid waste;
2. Thermal destruction facilities which dispose of non-hazardous solid waste and which incorporate energy recovery;
3. Solid waste transfer station facilities; and
4. Solid waste materials recovery facilities; and
5. Solid waste co-composting and composting facilities.

(b) The requirements of this subchapter are in addition to the general requirements found at N.J.A.C. 7:26-2.10 and 2.11.

(c) This subchapter shall apply to the following facilities:

1. All proposed solid waste facilities of the types identified in (a) above shall be designed, constructed, operated and maintained in accordance with the requirements of this subchapter; and
2. Any existing solid waste facilities of the types identified in (a) above determined to be operating in an environmentally unsound manner.

(d) This subchapter does not apply to hazardous waste facilities. See N.J.A.C. 7:26G.

Amended by R.1996 d.500, effective October 21, 1996.
See: 28 N.J.R. 1693(a), 28 N.J.R. 4606(a).

7:26-2B.2 Construction

These rules shall be liberally construed to permit the Department to discharge its statutory functions.

7:26-2B.3 Purpose

(a) This subchapter is promulgated for the following purpose:

1. To establish additional engineering design submission requirements for thermal destruction facilities, transfer stations, materials recovery facilities, and solid waste composting and co-composting facilities to ensure that adverse impacts are minimized and pollution of the environment is prevented; and

2. To establish operational requirements to ensure the proper operation of thermal destruction facilities to minimize adverse impacts and prevent pollution of the environment.

Amended by R.1996 d.578, effective December 16, 1996.
See: 28 N.J.R. 2114(a), 28 N.J.R. 5248(a).

In (a)1, inserted text "solid waste" preceding "composting".

7:26-2B.4 Additional engineering design submission requirements for thermal destruction facilities

(a) The following engineering design submittal requirements are in addition to the submittal requirements of N.J.A.C. 7:26-2.10:

1. The rated capacity of the facility, in both tons per day and tons per hour, and the maximum gross heat release rating for each incinerator/boiler;

2. The protocol to be established that will allow for the measurement of the rate of waste charging to the individual combustion unit(s), averaged for each over a discrete 24-hour period. In the case where the thermal destruction facility recovers energy for use by means of steam production, the boiler system and its auxiliaries shall be used as a calorimeter, and the following shall be factored into the method of determination:

i. Direct measurement of salient variables shall be employed where such means are available;

ii. Adjustments shall be made to account for variability in unit thermal efficiency as equipment is cycled for maintenance and as a result of equipment aging; and

iii. Seasonal variability of the higher heating value (HHV) of the waste subject to combustion shall be derived analytically using standard laboratory methods. At a minimum, the method chosen shall provide for quarterly reassessments of the HHV of the waste subject to combustion. Waste samples collected for HHV determination shall be representative of the nature and type of waste to be received at the facility for processing. The protocol shall also provide for a means of cross referencing the accuracy of the method of determination chosen by employing the use of the facility waste delivery weight scale records in a comparative analysis;

3. Projected average and peak daily deliveries of waste to the facility and charging rates to the combustion unit(s) (given in tons and estimated volumes). Quantify seasonal trends when anticipated;

4. The designation of normal loading, unloading and storage areas to be employed in the facility's handling of incoming wastes to be processed and residual materials generated by facility operations, including capacities in cubic yards and tons. Describe the time such areas can be practically used, based on average and peak facility operating conditions. At no time shall waste be delivered to the facility at a rate exceeding the facility's capacity to sort and process such waste. Under no circumstances shall waste be deposited beyond the confines of the refuse pit, except for the purpose of conducting incoming waste load inspections and holding unauthorized materials, or storing unprocessable materials such as oversize bulky waste;

5. The designation of emergency unloading, loading, staging, storage or other disposal capabilities to be used for the removal of previously stored waste should the facility be unable to process waste by means of combustion. Identify the plans for waste transfer from the facility, and identify the alternative disposal facility to be used under such conditions;

6. The expected daily quantity of bottom ash, fly ash (air pollution control train residues), post combustion recovered metals and other waste residue generated by facility operations, referenced by weight and projected volumes;

7. The proposed ultimate disposal location for all facility generated waste residues including, but not limited to, ash residues and by-pass materials, by-products resulting from air pollution control devices, and the proposed alternate disposal locations for any unauthorized waste types, which may have been unknowingly accepted. The schedule for securing contracts for the disposal of these waste types at the designated locations shall be provided;

8. A descriptive statement of any materials recycling or reclamation activities to be operated in conjunction with the facility, either on the incoming solid waste or the outgoing residue;

9. A descriptive statement and detailed specification of all process equipment, pollution control systems, instrumentation and monitoring mechanisms. Schematic diagrams shall be provided, where applicable. Equipment specifications, including information pertaining to the make, model and manufacturer, if available, and to the related processing equipment capacity, reliability and efficiency shall be submitted. Information on individual unit synchronization with upstream and downstream equipment shall also be submitted;