

tion of the facility when the extent or manner of its operation make closure most expensive, estimate the annual cost of long-term care of the site or facility for the period of owner responsibility and submit the estimated closure and long-term costs, together with all necessary justification to the department for approval, as part of the plan of operation submittal. The costs shall be reported on a per unit basis. The source of the estimates shall be indicated.

2. At a minimum, closure costs shall include cover material, topsoil, seeding, fertilizing, mulching, labor, and disposal or decontamination of hazardous waste and residues on equipment and structures.

3. At a minimum, long-term care costs shall include land surface care; gas monitoring; leachate pumping, transportation, monitoring and treatment; groundwater monitoring, collection and analysis; maintenance of facility monitoring and waste containment devices; and security requirements necessary to prevent hazards to human health.

4. The estimated annual rate of inflation shall be calculated by dividing the latest published gross national product implicit price deflator by the deflator published for the previous year in the survey of current business of the bureau of economic analysis, U.S. department of commerce. The result is the estimated annual rate of inflation.

5. The estimated annual rate of interest shall be the rate specified by the financial institution managing the fund or deposit.

(d) *Formulas for calculating the amount of proof of financial responsibility.* 1. 'Deposits in escrow, trust or department accounts.' a. Deposits for closure. The formula for closure shall be:

$$D = C \frac{(1 + f)^{SL}}{(1 + i)^{SL+c}}$$

in which:

D = the unknown deposit for closure	SL = the estimated active life of the site in years
C = the estimated cost of closure	i = the estimated annual rate of interest
f = the estimated annual rate of inflation	c = the period of closure

b. Deposits for long-term care. 1) The following statistics used in calculating the amounts deposited to the long-term care account shall be specified in the plan of operation: the rate of outpayment during the period of long-term care, expressed in equal or unequal annual amounts, and the equal annual rate of inpayment, expressed as either "real" or "actual" dollars.

2) The following general formula shall be used in the calculation.

$$A = R$$

When equal annual outpayments are used, R shall be expressed as:

$$R(1 + f)^{SL} \left(\frac{1 + f}{1 + i} \right)^c \left[\frac{1 - \left(\frac{1 + f}{1 + i} \right)^{LTC}}{\left(\frac{1 + f}{1 + i} \right) - 1} \right]$$

When unequal annual outpayments are used, R shall be expressed as:

$$R_x(1 + f)^{SL} \left(\frac{1 + f}{1 + i} \right)^{x+c}$$

When equal "actual" dollar inpayments are used, A shall be expressed as:

$$A(1 + i) \left[\frac{(1 + i)^{SL} - 1}{i} \right]$$

When equal "real" dollar inpayments are used, A shall be expressed as:

$$A(1 + i)^{SL+1} \left[\frac{1 - \left(\frac{1 + f}{1 + i} \right)^{SL}}{i - f} \right]$$

in which:

A = the unknown annual inpayment for long-term care

i = the estimated annual rate of interest

f = the estimated annual rate of inflation

SL = the estimated active life of the site in years

R = the estimated annual cost

x = the year of long-term care

LTC = the period of long-term

c = the period of closure

2. 'Performance or forfeiture bonds.' a. Bonds for closure. The formula for closure is:

$$CB = C(1 + f)^{SL+c}$$

in which:

CB = the unknown amount of the closure bond

C = the estimated closure cost

f = the estimated annual rate of inflation

SL = the estimated active life of the site

c = the period of closure

b. Bonds for long-term care. The rate of outpayment shall be as specified in par. (d) 1. b., the rate of inpayment shall be in equal "actual" dollars as specified in the plan of operation.

When equal annual outpayments are used, the formula shall be:

$$PB(SL) = R(1 + f)^{SL+1+c} \left[\frac{(1 + f)^{LTC} - 1}{f} \right]$$

When unequal annual outpayments are used, the formula shall be:

$$PB(SL) = R_x(1 + f)^{SL+x+c}$$

in which:

- PB = the unknown annual performance bond amount for long-term care;
 f = the estimated annual rate of inflation; LTC = the period of long-term care;
 SL = the estimated active life of the site; x = the year of the long-term care;
 R = the estimated annual outpayments; c = the period of closure

(e) *Adjustment of financial responsibility.* The owner of a hazardous waste facility shall prepare a new closure cost estimate whenever a substantial change in the closure plan affects the cost of closure and a new long-term care cost estimate whenever a substantial change in the long-term care requirements of the plan of operation affects the cost of long-term care. Proof of the increase in value of all bonds, escrow accounts and trust accounts established under this subsection shall be submitted annually to the department. The department may adjust the amount of the required proof of financial responsibility for closure or long-term care based upon prevailing or projected interest and inflation rates and the latest cost estimates, and may annually require the owner to increase or decrease the amount of proof of financial responsibility accordingly.

(f) *Access and default.* Whenever on the basis of any reliable information and after opportunity for a hearing, the department determines that an owner or operator of a hazardous waste facility is in violation of any of the requirements for closure or long-term care specified in the approved plan of operation, the department shall have the right to enter upon the facility and carry out the closure or long-term care requirements. The department may use part or all of the money deposited with it, or the money deposited in the escrow or trust accounts, or performance or forfeiture bonds to carry out these requirements.

(g) *Authorization to release funds.* 1. 'Closure.' When an owner or operator has completed closure, the owner may apply to the department for release of a bond or return of money held on deposit, in escrow, or in trust for closure of the facility. Such application shall be accompanied by an itemized list of costs incurred. Upon determination by the department that complete closure has been accomplished, the department shall authorize release and return of all funds accumulated in such accounts or give written permission for cancellation of a bond. Such determinations shall be concluded within 90 days of the application.

2. 'Long-term care.' One year after closure, and annually thereafter for the period of owner responsibility, the owner, who has

carried out all necessary long-term care during the preceding year, may make application to the department for reimbursement from an escrow account, trust account, or deposit with the department, or for reduction in a bond equal to the estimated costs for long-term care for that year. Such application shall be accompanied by an itemized list of costs incurred. Upon determination that the expenditures incurred are in accordance with the long-term care requirements anticipated in the approved plan of operation, the department may authorize release of the funds or approve a reduction in a bond. Prior to authorizing a release of funds or bond reduction, the department shall determine that adequate funds exist to complete required long-term care work for the remaining period of owner responsibility. Such determinations shall be concluded within 90 days of the application. Any funds remaining in an escrow account, trust account, or on deposit with the department at the termination of owner responsibility shall be released to the owner.

(11) **FACILITY LIABILITY REQUIREMENTS.** The owner or operator of a hazardous waste facility or group of facilities shall have and maintain liability insurance from an insurer licensed or eligible to insure facilities in the jurisdiction where the facilities are located, for sudden and accidental occurrences in the amount of \$1 million per occurrence with an annual aggregate per firm of \$2 million, exclusive of legal defense costs, for claims arising out of injury to persons or property from the operations of each such hazardous waste facility or group of facilities. The deductible written into the insurance policy shall not exceed 5% of the per incident limit of liability of the policy.

(12) **WASTE MANAGEMENT FUND.** (a) *Payment into the fund.* All owners or operators of licensed hazardous waste disposal facilities shall pay to the department the fees specified in par. (c), for each ton of hazardous waste received and disposed of at the site from the effective date of these rules until the site is closed and no longer receives waste, except as otherwise provided in s. 144.441 (3) (a), Stats. The department shall deposit all such fees into the waste management fund provided for in s. 25.45, Stats.

(b) *Certification.* The owner or operator of a licensed hazardous waste disposal facility shall certify, on a form provided by the department, the amount of hazardous waste received and disposed of during the preceding reporting period. The department shall specify the term of the reporting period on the certification form. The certification form shall be completed and returned to the department with the appropriate fee within 30 days after mailing of the form by the department to the owner or operator.

(c) *Fees.* 1. For all disposal facilities with an approved plan of operation the owner may choose to be responsible for the long-term care of the facility for either 20 years or 30 years after site closure. The fees to be paid into the fund shall be at a rate of payment of 35¢ per ton for 20-year responsibility and 15¢ per ton for 30-year responsibility, except for ashes or sludges from electric or process steam generating facilities, sludges produced by waste treatment or manufacturing processes at pulp or paper mills,

manufacturing process solid wastes from foundries, or sludges produced by municipal wastewater treatment facilities for which the rate of payment shall be 3.5¢ per ton for 20-year responsibility and 1.5¢ per ton for 30-year responsibility.

2. For all disposal facilities without an approved plan of operation, the fees to be paid shall be those indicated in subd. 1. at the 30-year responsibility rate of payment.

(d) *Use of fund.* Only facilities with an approved plan of operation are eligible for use of the money accumulated in the waste management fund. The owner or operator of any hazardous waste disposal site or facility in existence on the effective date of these rules shall be required to seek approval of a plan of operation before an operating license is issued. The monies in the waste management fund shall be expended exclusively as set forth in s. 144.441 (3) (g), Stats.

History: Cr. Register, July, 1981, No. 307, eff. 8-1-81; r. and recr. (10), Register, September, 1981, No. 309, eff. 10-1-81; reprinted to correct formulas in sub. (10), Register, November, 1981, No. 311.

NR 181.43 Storage standards. (1) **GENERAL.** Except as otherwise provided in sub. (2), no person shall maintain or operate a hazardous waste storage facility unless the person has obtained an interim license or an operating license from the department, in accordance with the requirements of s. NR 181.53 or 181.55.

(2) **EXEMPTIONS.** (a) A generator may accumulate hazardous waste on-site without a storage license for 90 days or less provided that:

1. Within 90 days, all such waste is either:

a. Shipped off-site to a designated facility which meets the requirements of s. NR 181.23 (2) (b); or

b. Treated, stored or disposed of in an on-site facility that is either licensed under subch. VI or exempt from licensing under s. NR 181.42 (1) (a).

2. The waste is placed in containers which meet the packaging requirements of s. NR 181.26 (1) and are managed in accordance with subs. (6) (a) and (8) except for sub. (8) (d), or is placed in tanks, provided the generator complies with sub. (6), with the exception of subs. (6) (c) and (d), and sub. (7), with the exception of sub. (7) (f);

3. The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container or tank;

4. Each container is properly labeled and marked according to s. NR 181.26 (2) and (3); and

5. The generator complies with the contingency plan, security and personnel training requirements for owners and operators specified in s. NR 181.42 (4) and (5).

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(b) The owner or operator of industrial wastewater facilities, sewerage systems and waterworks treating liquid wastes which are approved under s. 144.04, Stats., or permitted under ch. 147, Stats., are exempt from all the requirements of this section, except that this exemption does not apply to the storage or disposal of sludges or other hazardous waste produced during the treatment process.

(c) The owner or operator of a solid waste disposal site or facility licensed under ch. NR 180, Wis. Adm. Code, provided that the only hazardous waste the facility stores is excluded from regulation under this subchapter by s. NR 181.13 and the facility has been approved under s. NR 181.13 (7) to accept small quantities of hazardous waste.

(d) The owners or operators of facilities used for the storage of materials resulting from a mining operation as defined in s. 144.81 (5), Stats., except where requirements in this section are referenced in the rules adopted by the department under s. 144.435 (1m), Stats.

(3) FEASIBILITY REPORT. (a) Unless specifically exempted in sub. (2), no person shall establish, construct or expand a hazardous waste storage facility or be issued an initial operating license under s. NR 181.55 without first obtaining written approval of a feasibility report and subsequently obtaining approval of a plan of operation from the department. The purpose of the feasibility report is to determine whether the site has potential for use as a hazardous waste storage facility and to identify any conditions which the applicant shall include in the plan of operation. Favorable feasibility determination does not guarantee plan of operation approval and licensure. The feasibility report shall be submitted in accordance with the requirements of s. NR 181.51 and shall contain the applicable material required by s. NR 181.44 (6). The applicant is encouraged to submit an initial site report as outlined in s. NR 181.44 (5). The department may waive in writing any of the complete feasibility report requirements specified in s. NR 181.44 (6). Feasibility report re-