ILLINOIS POLLUTION CONTROL BOARD
November 21, 1985

IN THE MATTER OF:	)	
	)	
FINANCIAL ASSURANCE FOR CLOSURE	)	R84-22C
AND POST-CLOSURE CARE OF WASTE	)	
DISPOSAL SITES (ECONOMIC IMPACT	)	
OF TEMPORARY REGULATIONS AND	)	
ADOPTION OF FINAL REGULATIONS)	)	

Final Order, Adopted Rule (R84-22C).

OPINION OF THE BOARD (by J. Anderson)

This Opinion supports the Order of this same day adopting permanent regulations to replace temporary regulations adopted prior to the filing of an economic impact study.

Public Act 83-775 became effective on September 24, 1983. Provisions of this law, which are fully set out below, prohibited certain non-hazardous waste disposal operations after March 1, 1985 without a performance bond or other security for the purpose of insuring closure of the site and post-closure care in accordance with the Environmental Protection Act[1] and Board rules. Section 21.1(b) of the Act required the Board to adopt by January 1, 1985 rules which specified the type and amount of the bonds or other securities.

On June 8, 1984 the Board opened this Docket for the purpose of promulgating regulations implementing P.A. 83-775. On July 19, 1984 the Board proposed such as amendments to Part 807[2]. The proposal appeared at 8 Ill. Reg. 14145, August 10, 1984.

On August 2, 1984 the Board authorized the hearing officer to seek outside expertise to assist in developing the record. Another Board Assistant, who had not been directly involved in development of the proposal and testimony, acted as hearing officer at the formal hearings.[3]

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[1]"Act": Ill. Rev. Stat. 1983, ch. 111 1/2, pars. 1001 et seq.

[2]Unless otherwise indicated, references to "Sections" or "Parts" are to Illinois Administrative Code, Title 35.

[3]The Board appreciates the assistance of Morton F. Dorothy in drafting these regulations and this accompanying Opinion, and of Kathleen Crowley in her responsibilities as Hearing Officer.

The Board held five hearings as follows:

1. September 7, 1984, Chicago
2. September 17, 1984, Springfield
3. September 24, 1984, Chicago
4. September 28, 1984, Carbondale
5. October 9, 1984, Springfield

The following witnesses testified, with the primary area of testimony indicated:

1. Morton Dorothy, Pollution Control Board, concerning the overall outline of the proposal (R. 12).

2. Douglas Andrews, P.E., testifying on behalf of the Illinois Chapter of the National Solid Waste Management Association (NSWMA), concerning the number and sizes of sites (R. 171).

3. Gary Medler, counsel to the Illinois Commissioner of Banks and Trusts, concerning trust funds and letters of credit (R. 206).

4. Kenneth Smith, Deputy Director of the Illinois Department of Insurance, concerning insurance and bonds (R. 220).

5. Carol Lee, from the United States Environmental Protection Agency (USEPA), testifying on behalf of NSWMA, concerning self-insurance (R. 232).

6. Paul Bailey, ICF, Inc., testifying at the behest of the Board, concerning self-insurance (R. 282).

7. Thomas Golz, from USEPA, testifying at the behest of the Board, concerning self-insurance (R. 531).

8. James W. Morgan, testifying at the behest of the Board, concerning the Wisconsin financial assurance program (R. 568).

9. Charles Johnson, Technical Director of the NSWMA, concerning interim closure plan rules (R. 633).

10. Joseph Benedict, John Sexton Contractors, Inc., concerning interim closure plan rules (R. 655).

11. Patrick Lynch, P.E., testifying at the behest of the Board, concerning closure plans and cost estimates (R. 681).

12. David C. Beck, P.E., testifying on behalf of NSWMA, concerning closure plans and cost estimates (R. 761, 1032).

13. James Ambroso, Land & Lakes Company, testifying on behalf of NSWMA concerning self-insurance (R. 793).

14. Larry Eastep, P.E., from the Illinois Environmental Protection Agency (IEPA or Agency), concerning closure plans and cost estimates and implementation (R. 846).

15. Sally S. Whalen, Illinois Manufacturers Association, concerning on-site exemptions and legislative intent (R. 988).

16. John L. Kirby, Executive Director, Illinois Solid Waste Association (ISWA), concerning interim rules (R. 1001).

Following the first notice and hearings the Board received the following written public comment:

1. Illinois Department of Insurance, August 15, 1984.

2. Cecos International, September 7, 1984.

3. DuPage County Forest Preserve District, September 19, 1984.

4. GRCDA, International Association of Waste Management Professionals, September 17, 1984.

5. Surety Association of Illinois, October 18, 1984.

6. Chicago Association of Commerce & Industry, October 19 and 25, 1984.

7. John Sexton Contractors, October 20, 1984.

8. Granite City Steel Division of National Steel Corporation, Interlake Inc., Keystone Steel & Wire Company, LTV Steel Company, Northwestern Steel & Wire Company, and United States Steel Corporation, October 25, 1984.

9. Illinois Power Company, October 26, 1984.

10. Agency, October 26, 1984.

11. NSWMA, October 26 and 30, 1984.[4]

The Board was required to adopt rules by January 1, 1985; yet, it had not received an economic impact study. Therefore, on December 27, 1984 the Board adopted emergency rules, and sent temporary rules to second notice pursuant to Section 27(b) and 27(c) of the Act. The Board split the docket into Subdockets R84-22A and R84-22B, with the former reserved for the emergency rules and the latter for the temporary rules. The existing record in R84-22 was incorporated into each Subdocket.

The emergency rules were accepted for filing and became effective on January 3, 1985. (9 Ill. Reg. 741, January 18, 1985). In an Order dated January 10, 1985, the Board corrected an error in Section 807.624 (9 Ill. Reg. 1162, January 25, 1985).

The second notice in R84-22B was received by the Joint Committee on Administrative Rules (JCAR) on January 24, 1985. Although the second notice period ended on March 11, 1985, JCAR did not consider the proposal until March 19, 1985.[5]

JCAR recommended that the Board seek clarifying legislation, as to whether the amount of the bond is to be related to the design and volume of the entire site, or just the disposal unit as one might conclude from the use of "facility" in the final sentence of Section 21.1(b). The Board's interpretation gives greater weight to the requirement of Section 21.1(a) that the bond be "for the purpose of insuring closure of the site."

On April 18, 1985 the Board opened this docket, R84-22C for the purpose of conducting economic impact hearings and revising the temporary regulations as necessary in response to the hearings. The Board also opened Docket R84-22D for the purpose of addressing any remaining issues, including possible ambiguous areas noted by the JCAR staff.

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[4]A public comment also was filed on April 1, 1985 by the Illinois Chapter of National Solid Wastes Management Association (NSWMA). This comment was untimely filed for Board consideration, as it was received well after the end of the First Notice period and commencement of the Second Notice period in R84-22B. As noted in the Board's April 4, 1984 Opinion in R84-22B, p. 3, note 4, and in the April 18, 1985 Order establishing dockets R84-22C and R84-22D, NSWMA's concerns may be asserted in docket R84-22D. See also the Order of October 10, 1984 in R84-22D, soliciting draft proposals addressing issues other than those raised by JCAR in R84-22B.

[5]As will appear below this matter has been before JCAR two times, in R84-22B and in R84-22C. In this Opinion, except where otherwise indicated, references to JCAR or staff actions or comments refer to R84-22B.

The temporary rules were adopted on April 4, 1985 in R84-22B. They were filed with the Secretary of State on April 29, 1985. They appeared at 9 Ill. Reg. 6722, May 10, 1985. The Board proposed to readopt the temporary rules as permanent rules in R84-22C at 9 Ill. Reg. 6598, May 10, 1985.

The Board received the final copy of the Economic Impact Study from the Department of Energy and Natural Resources (DENR), as approved by the Economic and Technical Advisory Committee, on May 29, 1985. The Board conducted two economic impact hearings as follows:

6. June 21, 1985, Springfield

7. July 2, 1985, Chicago

At the economic impact hearings the Board received testimony from Dr. George Tolley, Mr. William Zeiler and Mr. Miguel Garcia of RCF, Inc., the EcIS contractor. (R. 1049, 1063, 1129) The Board also received testimony from Mr. Larry Eastep concerning the extent of compliance with the emergency and temporary rules. (R. 1100) The Board received no written public comment following the economic impact hearings.

For the reasons discussed in detail hereafter, based on the EcIS and the other evidence in the public hearing record, the Board finds that these rules impose no adverse economic impact on the people of the State.

On September 5, 1985 the Board adopted an Opinion and Order sending the temporary rules adopted in R84-22B to second notice as permanent rules without change. The second notice in R84-22C was received by JCAR on September 13, 1985. The matter appeared on JCAR's agenda for its October 16 meeting, at which time JCAR requested that the Board withhold filing the rules until after JCAR's November 14 meeting. The 45-day period for JCAR action ended on October 28, 1985. However, the Board withheld filing of the rules as requested by JCAR. A Board representative attended the November 14 JCAR meeting. On November 18, 1985, the Board received a letter of no objection from JCAR. In an Order adopted this same day, the Board directed the Clerk to arrange for the refiling without change of the temporary rules adopted in R84-22B as permanent rules in this docket R84-22C.

In a related matter, on October 10, 1985, the Board proposed for first notice, in R84-22D, to amend the temporary and permanent rules in response to JCAR comments received in connection with R84-22B.

At the outset, the Board notes that the scope of the pending R84-17 proceedings, or any other proceedings concerning "Chapter 7 and 9," is not intended to be limited by any overlapping issues that may have been addressed in this R84-22 proceeding.

STATUTORY PROVISIONS

The non-hazardous waste permit requirement is contained in Section 21(d) of the Act, which reads as follows:

No person shall:***

d. Conduct any waste-storage, waste-treatment, or waste-disposal operations:

1. Without a permit granted by the Agency or in violation of any conditions imposed by such permit, including periodic reports and full access to adequate records and the inspection of facilities, as may be necessary to assure compliance with this Act and with regulations and standards adopted thereunder; provided, however, that no permit shall be required for any person conducting a waste-storage, waste-treatment, or waste-disposal operation for wastes generated by such person's own activities which are stored, treated, or disposed within the site where such wastes are generated; or,

2. In violation of any regulations or standards adopted by the Board under this Act.

The relevant portions of P.A. 83-775 are contained in Section 21.1 of the Act, which reads as follows:

a. No person other than the State of Illinois, its agencies and institutions, or a unit of local government shall conduct any waste disposal operation on or after March 1, 1985, which requires a permit under subsection (d) of Section 21 of this Act, unless such person has posted with the Agency a performance bond or other security for the purpose of insuring closure of the site and post-closure care in accordance with this Act and regulations adopted thereunder.

b. On or before January 1, 1985, the Board shall adopt regulations to promote the purposes of this Section. Without limiting the generality of this authority, such regulations may, among other things, prescribe the type and amount of the performance bonds or other securities required under subsection (a) of this Section, and the conditions under which the State is entitled to collect monies from such performance bonds or other securities. The bond amount shall be directly related to the design and volume of the waste disposal facility.

c. There is hereby created within the State Treasury a special fund to be known as the "Landfill Closure and Post-Closure Fund". Any monies forfeited to the State

of Illinois from any performance bond or other security required under this Section shall be placed in the "Landfill Closure and Post-Closure Fund" and shall, upon approval by the Governor and the Director, be used by and under the direction of the Agency for the purposes for which such performance bond or other security was issued.

d. The Agency is authorized to enter into such contracts and agreements as it may deem necessary to carry out the purposes of this Section. Neither the State, nor the Director, nor any State employee shall be liable for any damages or injuries arising out of or resulting from any action taken under this Section.

e. The Agency shall have the authority to approve or disapprove any performance bond or other security posted pursuant to subsection (a) of this Section. Any person whose performance bond or other security is disapproved by the Agency may contest the disapproval as a permit denial appeal pursuant to Section 40 of this Act.

f. The Agency may establish such procedures as it may deem necessary for the purpose of implementing and executing its responsibilities under this Section.

g. Nothing in this Section shall bar a cause of action by the State for any other penalty or relief provided by this Act or any other law.

OVERVIEW

The following is a brief summary of the rules and major issues. A detailed discussion appears below.

The rules implement the bond requirement of Section 21.1 of the Act by requiring the preparation of closure and post-closure care plans, and cost estimates based on these plans. The operator is required to provide financial assurance in an amount equal to the cost estimate. Financial assurance can be given by several mechanisms, including a trust fund, surety bond, letter of credit, closure insurance, and, for non-commercial sites, self-insurance.

R84-17

The rules rely on the existing closure and post-closure care requirements for sanitary landfills in Part 807. These are subject to revision in R84-17. Operators will be required to base cost estimates on the existing regulations pending modification. Operators may be required to update plans in the future to meet new regulations, and to provide additional financial assurance.

SCOPE OF REGULATIONS

The rules primarily affect persons:

1) who conduct a "disposal" operation or an "indefinite storage" operation; and

2) who are required to have a permit (Section 21(d) of the Act and Section 807.601); and

3) who receive waste for disposal or indefinite storage on or after March 1, 1985; and

4) who are not a governmental unit.

Persons with permits who conduct other types of waste management operations, such as treatment and storage, will have to comply with the general closure rules. Those who have Section 21(d) permits will be required to file closure plans with their next permit modification application (Section 807.205).

Persons who conduct waste management operations but are exempt from the permit requirement must comply with the general closure rules, but need not prepare plans or provide financial assurance (Section 807.501).

Sites which stopped accepting waste for disposal or indefinite storage by March 1, 1985, will not be required to provide financial assurance (Section 807.601).

The governmental units exemption applies only to persons which "conduct" waste disposal operations. Private contractors who conduct operations on a site owned by local government must provide financial assurance (Section 807.601).

PHASE-IN PROVISIONS

Under the rules operators had three choices on March 1, 1985. They could avoid the financial assurance requirement by ceasing to accept waste and initiating closure pursuant to existing permit conditions. Alternatively, they could provide financial assurance either by preparing a closure and post-closure care plan and cost estimate, or by submitting a cost estimate based on the interim formula (Section 807.624).

Operators who utilized the interim formula will be required to prepare closure and post-closure care plans and cost estimates with the next application to modify the permit, or by March 1, 1988 at the latest.

SELF-INSURANCE

The Board has limited self-insurance to those operators who meet the USEPA financial test, and who derive less than half

their revenue from waste disposal operations. Self-insurance will be available to few sites, since on-site disposal generally is not subject to the permit or financial assurance requirement. The Board has provided self-insurance as an option for any on-site operators which might be subject to the permit requirement, or for diversified firms which also conduct waste disposal operations.

OTHER FINANCIAL MECHANISMS

Several alternative financial mechanisms were suggested at the hearings. These included an escrow account, a savings account, a cash deposit with the Agency and a risk pool (R. 194, 237, 240, 242, 248, 279, 288).

The escrow account is similar to a trust, and should be available from basically the same banks at a similar cost. A savings account in the Agency's name would not be secure in the absence of a formal trust agreement stating the trustee's duties and preventing the operator's creditors from seizing the account.

A cash deposit with the Agency might be a very desirable mechanism. It would save operators administrative costs, and give the State greater security. However, the landfill closure and post-closure fund can receive only money which is "forfeited," and cannot refund money following proper closure by the operator. If the Board were to allow use of the fund as a pooled trust fund, there would be a possibility that the money would be treated as general revenue to the State, and be unavailable for closure of any site in the absence of an appropriation.

Another possibility is establishment of a risk pool to which each operator contributes during the active life of the site. The Board lacks the authority to create a fund in the State Treasury, and to obligate the State to pay money out of such a fund. In addition, this would require continuing oversight of rates and an administrative apparatus to collect premiums and handle claims, each of which would require express authority and an appropriation.

NUMBER OF SITES AFFECTED

The EcIS identified 209 landfills. Of these, 143 were privately owned and operated. Another nine were municipally owned and privately operated. The EcIS was based on these 152 sites thought to be subject to the financial assurance requirement. (R. 1064, 1149; EcIs p. 54) The Agency believes that around 168 sites are subject to the financial assurance requirement. (R. 1104)

ECONOMIC IMPACT

The following is a summary of the economic impact of the financial assurance regulations and requirement. More detailed discussions of various aspects of the economic impact is included with the detailed disucssion of the rules which follows. In particular, the closure and post-closure care cost elements are discussed with the Board's interim formula, and the costs of the instruments are discussed with each type of instrument.

The EcIS attempted to quantify the costs of the financial assurance requirement of Section 21.1 of the Act rather than the costs and benefits of the financial assurance rules. The costs of the financial assurance requirement itself would have been incurred regardless of the Board rules, and so properly should have formed the baseline of the study. From a review of the study and hearings the Board has not been able to identify any costs or benefits associated with the way the Board implemented the financial assurance requirement apart from the cost of the financial assurance requirement itself. The Board therefore determines that there is no adverse economic impact on the people of the State.

The EcIS did estimate the costs and benefits of the financial assurance requirement itself. These are summarized as follows.

The contractor reviewed the 209 sites to determine their daily volume of waste received, open acres and total site acreage. (EcIS p. 54) The aggregate closure and post-closure care cost to the 152 sites subject to financial assurance was determined using the Board's interim formula and using the contractor's own formula. The aggregate cost estimate under the interim formula was nearly $18.6 million, and, under the contractor's formula, nearly $9.0 million. (EcIS p. 59, 64) This would result in a financial assurance cost of around $450,000 during 1985, assuming the most likely mix of financial instruments, (EcIS p. 66) This would reduce to around $230,000 per year by 1988 when all sites should have cost estimates based on plans, which the study determined would result in lower cost estimates. (EcIS 66).

The study concluded that the Agency would spend around $15,000 to $61,000 per year administering the financial assurance proram. (EcIS p.67) The study did not attempt to quantify the benefits of the financial assurance requirement. (EcIS p.76; R. 1062, 1088)

SUBPART A: GENERAL PROVISIONS

Section 807.104 "Abandonment"

"Abandonment" means the failure to initiate closure within 30 days after receipt of the "final volume of waste". Section

807.503 requires the operator to give notice to the Agency of receipt of a final volume within 30 days; Section 807.506 requires the operator to initiate closure within the same time period. Abandonment is a condition which triggers liability by financial institutions (Sections 807.662 et seq.) (R. 16, 117, 141, 429, 496, 688, 965).

Section 807.104 "Compaction"

A definition of "treatment" appears below. "Treatment" includes "reduction in volume." The Board has referenced the definition of "treatment" in the definition of "compaction" (R. 16, 933).

Section 807.104 "Development"

"Facility" has been changed to "unit" to agree with terminology which is described below (R. 16).

Section 807.104 "Disposal"

Section 21(d) of the Act requires a permit for anyone who conducts a "waste-storage, waste-treatment, or waste-disposal operation," with certain exemptions. Section 21.1(a) prohibits the conduct of any waste disposal operation, for which a permit is required, without a performance bond or other security. The definition of disposal is therefore essential to the scope of the permit requirement and to the decision as to which sites must provide financial assurance (R. 17).

The definition is taken from Section 3 of the Act, with the final sentence added: "As used in this Part, 'disposal' includes methods of storage or treatment in which there is no certain plan to remove wastes or waste residues from the storage or treatment unit to another unit for ultimate disposal." "Indefinite storage" has been defined below to cover situations in which there is a plan, but there may be technical or economic obstacles to actually implementing the plan. Persons who store waste with no plan for disposal, or with an unworkable plan, will have to provide financial assurance as though they were operating disposal sites (R. 428, 434, 439, 445, 447, 456, 462, 960).

Section 807.104 "Facility"

As used presently in Part 807 "facility" refers to a portion of a "site" used for a regulated activity. This conflicts with the usage in the RCRA program in which a "facility" is roughly equivalent to the entire "site" (Section 720.110). The Board has replaced "facility" with "unit" as the preferred term to be used when referring to a portion of a "site" (R. 17).

Section 807.104 "Final Volume of Waste"

A quantity of waste is assumed to be the "final volume" if the operator receives no additional waste within 30 days thereafter. The operator can overcome the presumption by demonstrating that he expects additional waste (R. 429). Receipt of the final volume starts the 30 day period in which the operator must notify the Agency and initiate closure (Sections 807.505 and 807.506). Failure to do so is "abandonment" which is a condition triggering liability by a financial institution (Sections 807.662 et seq.).

Abandonment of a general waste site is likely to consist of cessation of activity because of financial difficulty, or, in the case of very small sites, the death or illness of a sole proprietor. The site will be left unattended, with open dumping of refuse without compaction or daily cover (R. 786, 966). Such waste would not be received "by the operator", and would not affect the question of whether an earlier volume was a "final volume".

Section 807.104 "Hazardous Waste"

This definition controls the exclusion of "hazardous waste" from the permit requirement of Section 21(d) of the Act. The Board has incorporated the elaborate definition of Part 721. This definition is not identical to the definition in the Act. The Board was obliged to adopt the Part 721 definition pursuant to Section 22.4(a) of the Act. It fixes the scope of the RCRA permit requirement of Section 21(f) of the Act. Utilizing the same definition of hazardous waste here assures that hazardous waste which is exempt from the Section 21(d) permit is within the Section 21(f) RCRA permit requirement (R. 17).

Section 807.104 "Indefinite Storage"

"Indefinite storage" is a type of "treatment" or "storage" in which the operator has a plan to remove wastes or residues from the unit, but technical or economic considerations may make it difficult to remove the wastes or residues prior to closure. Wastes are presumed to be in indefinite storage if they remain in a unit for more than one year. The operator is required to prepare contingent closure and post-closure care plans and provide financial assurance in an amount sufficient to close the indefinite storage unit as a disposal unit.

This definition closes a loophole in the proposal which would have allowed an operator to avoid the financial assurance requirement by declaring disposal to be storage. Two examples would include speculative recycling of a waste which may someday become valuable, and operation of a percolation and infiltration lagoon. In the first case, if the waste becomes valuable it will be sold. However, to satisfy the intent of Section 21.1, the operator must provide financial assurance to close the

accumulated waste as a landfill if the waste cannot be sold and it is too expensive or difficult to remove it to a landfill. In the second case, wastes are pumped to an unlined lagoon for treatment or storage without periodic removal of wastes or residues, some of which may migrate into underlying soils. It is likely that such a lagoon will have to be closed as a landfill because of the cost and technical difficulties of removal (R. 362, 428, 434, 439, 445, 447, 456, 462, 506, 687, 960).

Section 807.104 "Modification"

"Facility" has been changed to "unit" (R. 18).

Section 807.104 "Operator"

The "operator" is the person who conducts a waste treatment, storage or disposal operation which requires a permit pursuant to Section 21(d) of the Act. The "owner" is not necessarily the operator (R. 18, 23).

Section 807.104 "Owner"

The "owner" owns the land on which someone conducts a waste treatment, storage or disposal operation. If there is no other person conducting operations, the "owner" is also the "operator" and subject to the permit requirement of Section 21(d) of the Act (R. 18, 23). This language was modified pursuant to JCAR staff comments.

Section 807.104 "Refuse"

"Refuse" has been replaced with the preferred term "waste", which is used in Section 21(d).

Section 807.104 "Salvaging"

"Solid waste" has been replaced with the preferred term "waste".

Section 807.104 Scavenging"

"Facility" has been replaced with the preferred term "unit".

Section 807.104 "Site"

The definition has been modified to make it clear that the term "site" refers to the area around a regulated "unit" and that a "site" may include one or more such "units".

The definition of "site" is important in the on-site exemption from the Section 21(d) permit requirement. No permit is required for a "unit" which is on the same piece of real estate as the operation which generated the "waste" and which is under the control of the same entity which generated the waste (R. 19, 22).

Section 807.104 "Solid Waste"

This is modified to reflect the preferred term "waste".

Section 807.104 "Solid Waste Disposal"

This concept has been replaced by the definitions of "disposal" and "waste", the terms used in Section 21(d) of the Act.

Section 807.104 "Solid Waste Management"

This has been replaced by the preferred term "waste management".

Section 807.104 "Storage" and "Treatment"

These definitions are taken from Section 3 of the Act. They are used in Section 21(d) to fix the scope of the permit requirement.

Section 807.104 "Unit"

This term replaces "facility". The phrase "device, mechanism, equipment or area" is taken from the old definition of "facility". The rest of the definition has been reworded to read "used for storage, treatment or disposal of waste" to agree with the terminology of Section 21(d) of the Act (R. 21, 24, 27).

Section 807.104 "Waste"

This definition fixes the scope of the permit requirement of Section 21(d) of the Act insofar as subject matter is concerned. The definition is taken from Section 3 of the Act. At the request of the JCAR staff citations to statutes and regulations have been added.

Section 807.104 "Waste Management"

This definition is taken from the old definition of "solid waste management". The terminology has been changed to refer to "storage, treatment or disposal of waste" to reflect the terminology of Section 21(d) of the Act. This is a generic term for any activity subject to the permit requirement.

SUBPART B: WASTE PERMITS

Section 807.205 Applications for Permit

At the request of the JCAR staff, the term "facility" has been removed from para. (a). Either "unit" or "site" would be appropriate in this paragraph.

The Board originally proposed to delete para. (j), which created a third party appeal right which was ruled invalid, since it was not specifically authorized by statute, in Landfill Inc. v. Illinois Pollution Control Board, 74 Ill. 2d 541, 387 N.E. 2d 258 (1978). However, the Act has since been amended to add certain third party appeal rights to Title X. The Board therefore retained para. (j) in the second notice order, but prefaced it with the phrase "If specifically authorized by statute." Pursuant to JCAR staff comments, the Board has stricken the phrase "adversely affected by the issuance of a permit" from the old language. This appeared to place a condition on statutory rights of appeal.

Paragraph (l) requires that applications contain a closure plan and a post-closure care plan showing how the operator will provide closure and post-closure care in accordance with all applicable regulations, which will be discussed below (R. 35, 953). Original cost estimates will also be required with the application (R. 361). Actual financial assurance need not be tendered until just prior to receipt of waste (Section 807.602).

The Board has modified para. (l) pursuant to JCAR staff comments. Whether an application must contain plans and cost estimates depends on Subparts E and F. The operator needs to show compliance with applicable "Board" regulations.

Section 807.206 Permit Conditions

Section 21(d)(1) contains a specific authorization for permit conditions involving reports, access to records and inspections. This has been added to the existing general language of Section 807.206(a), which is derived from Section 39(a) of the Act (R. 37).

Section 807.206(c) contains a listing of permit conditions, related to financial assurance, which must be in all permits. The conditions are as follows with the related section indicated:

1. A closure plan (Section 807.503);

2. For disposal sites, a post-closure care plan (Section 807.523);

3. A requirement that the operator notify the Agency within 30 days after receiving a final volume of waste (Section 807.505);

4. A requirement that the operator commence execution of the closure plan within 30 days after the site receives its final volume of waste (Section 807.506);

5. A requirement that the operator file any final application to modify the closure plan at least 180 days prior to receipt of the final volume of waste (Section 807.505);

6. A requirement to provide financial assurance in an amount equal to the current cost estimate (Sections 807.601 and 807.603);

7. A requirement to update the current cost estimate every other year (Section 807.623).

Section 807.209 Permit Revision

Section 807.209(b) provides that a permittee may request modification at any time by filing an application reflecting the modification. This appears to be the existing Agency interpretation (R. 42, 362, 941).

Section 807.214 Revised Cost Estimates

This Section relates to the biennial cost adjustment of Section 807.623. Cost adjustments which do not result from modification of a closure or post-closure care plan are a special type of permit application in which the operator needs to provide only minimal information. This provision does not require the Agency to take affirmative action. However, the Agency can deny the application within 90 days if the cost estimate does not relate to the plan or if the Agency does not agree with the costs (R. 951).

SUBPART E: CLOSURE AND POST-CLOSURE CARE

Section 807.501 Purpose, Scope and Applicability

Subpart E establishes general rules on closure and post-closure care which are supplemented by the sanitary landfill closure and post-closure care rules of Subpart C. Subpart E requires that operators of sites with permits prepare closure and post-closure care plans which will become permit conditions. The plans will form the basis of the cost estimate of Subpart F, which fixes the amount of financial assurance which must be provided.

Sites which are not required to have Section 21(d) permits are not required to prepare plans, or to provide financial assurance (R. 68, 85, 90). Existing sites which are required to have a permit may elect to utilize the formula of Section 807.624 in lieu of preparing plans and a cost estimate to meet the March 1, 1985 date. Such sites will be required to provide closure plans with the next modification application or by March 1, 1988 (Sections 807.205 and 807.624).

Section 807.502 Closure Performance Standard

This Section contains the general standard for closure of a waste management site. The operator must close the site in a manner: which minimizes the need for further maintenance; and

which controls, minimizes or eliminates, post-closure release of waste, waste constituents, leachate, contaminated rainfall, or waste decomposition products to the groundwater or surface waters or to the atmosphere to the extent necessary to prevent threats to human health or the environment (R. 69, 166).

This general standard is supplemented by the specific closure requirements for sanitary landfills which are listed below. All waste management sites must meet the general closure standard, but only sanitary landfills need meet the following specific rules (R. 69, 95, 154, 682, 953):

Section	
807.305	A total of two feet of final cover within 60 days following the placement of refuse in a final lift.
807.313	Prohibition on discharge of contaminants
807.314(e)	Adequate measures to monitor and control leachate
807.315	Prohibition on damage to waters of the State.
807.316	Closure plan required in application.
807.318	Monitoring of gas, water and settling for three years after closure; maintenance during the three year period; filing of a plat.

The closure standard requires closure so as to prevent post-closure release of "waste constituents" and "waste decomposition products". This is not to be construed as an absolute prohibition on release of water or gas from the completed landfill. Control is required only "to the extent necessary to prevent threats to human health or the environment" (R. 166, 955).

The closure performance standard, which is a minimal standard to avoid gross pollution, applies to all sites, whether required to have a permit or not (R. 56, 111).

Section 807.503 Closure Plan

The closure and post-closure care plans will become conditions of the site permits. Modification of the plans will require permit modification. The Agency can deny a permit because of deficiencies in the plans, or it can issue a permit with modified plans.

A possible alternative is a rule which just requires preparation and maintenance of a plan even by permitted sites. This is what is required in the RCRA interim status rules at 35

Ill. Adm. Code 725.212. This alternative has been rejected for two reasons. First, in a scheme where permits are actually required, it seems unwise to leave an element so essential to protection of the environment out of the permit. Second, because the plan is essential to the cost estimate and amount of financial assurance, prior Agency review is necessary to accomplish the purposes of Section 21.1 of the Act (R. 71, 99, 848, 850). However, the Board has allowed cost estimates based on a formula without plans during the initial transition period (Section 807.624). During the next three years operators will be required to formalize plans only with the first permit modifications.

In addition to forming the basis for the cost estimate, the plans form the basis for the determination as to whether a site is a treatment or storage unit on the one hand, or a disposal unit or indefinite storage unit on the other. Under the definitions in the Act and Section 807.104, treatment and storage involve temporary placement of waste, while disposal involves permanent placement, or loss of the waste into the background. Indefinite storage involves storage under circumstances in which costs or technical difficulties will force closure as a disposal unit. Only sites with disposal units and indefinite storage units are required to provide financial assurance.

Existing Sections 807.316(a)(10), (a)(14), (a)(15)(A) and (a)(15)(K) require virtually the same material in sanitary landfill applications as is required in the proposed closure plan rules. However, these are usually not brought together into a single portion of a permit identified as a closure plan (R. 685, 697, 715, 725).

The operator must prepare a closure plan detailing steps necessary for final closure at the end of the intended operating life and a plan for premature final closure at the point in the intended operating life when the cost of closure will be the greatest.[6] Although these could coincide, some landfills would be expected to reach the point of maximum cost exposure early in their operating life (R. 119, 286, 363, 416, 430, 688, 719, 756, 763, 780, 848, 854). The plan for premature closure forms the basis of the cost estimate. The possibility of a default by a landfill operated according to the rules and permit conditions up to the end of its intended operating life is remote (R. 684, 725, 756). The primary risk intended to be addressed is that of premature closure by a landfill which has not been properly operated. The premature closure plan should give a better indication of the cost involved in such closure.

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[6]The point in the intended operating life when the cost of closure will be the greatest is referred to as the "point of maximum exposure" or the "point of maximum cost exposure" in this Opinion.

The closure plan must specify both the year of intended closure and the year in which the cost of closure is expected to be greatest. These are important to determination of the pay-in period if financial assurance is provided through a trust fund (R. 364, 431, 683, 687).

The operator must include a temporary shutdown plan if the operator wants a permit which would authorize temporary suspension of waste acceptance prior to final closure (R. 51, 78). A seasonal operation or one which could be affected by strikes should apply for a temporary shutdown plan. The language was modified pursuant to JCAR staff comments to use "suspension of waste acceptance" in the rules.

Temporary shutdown is to be distinguished from partial shutdown which involves closure of a portion of a site while operations are ongoing on another portion (R. 51, 78, 92, 142, 363, 430, 688). Partial shutdown may be addressed two ways. First, the operator can ask that the permit be modified to specify certain "areas" pursuant to Section 807.507. The operator could then prepare separate plans and cost estimates for each area, providing financial assurance when waste is first disposed in each area, and obtaining release with respect to closure costs when closure is completed. Alternatively, the operator could allow for the opening and closing of units in a single plan, identifying the situation in which the greatest cost exposure would occur. The operator could then post a bond in the amount required to close the site at the point of greatest cost exposure.

The proposal required that a copy of the closure plan be kept at the site so that it would be available to the Agency inspectors. This could impose a hardship in that many general waste sites lack a permanent structure which would be a suitable repository. The Board has modified the proposal to require the plan to be maintained at a location, approved in the permit, where it will be available during inspection of the site.

Section 807.504 Amendment of Closure Plan

This Section is similar to Section 724.212(b) in the RCRA rules. It specifies the situations in which the owner or operator must revise the closure plan:

1. Modification in the operating plans or site design affecting closure.

2. Temporary suspension of waste acceptance, or reduction or increase in volume.

3. Change in the expected year of closure, or the year in which the cost of premature closure will be the greatest.

Under Section 807.209 the operator would be allowed to file an application to modify at any time. Section 807.504 is not intended to limit the operator's right to amend, but to state certain situations in which he must amend.

The second and third situations under which the closure plan must be amended are directed in part at sites which go into a temporary or partial shutdown which is not provided for in the closure plan. Violations of Section 807.504(b) or (c) could be alleged if activity slowed or ceased at the site without an amended plan. Section 807.503 allows the operator to provide a temporary shutdown plan which will not trigger the need to amend the closure plan. Existing Section 807.316(a)(12) requires the operator to specify expected quantities of waste in the application. The proposal has been modified to specifically state that changes, reductions or increases which are authorized by the permit do not trigger the requirement to amend (R. 22, 91, 93, 366, 374, 496, 688, 780, 786).

Section 807.505 Notice of Closure and Final Amendment to Plan

Section 807.505(a) requires the operator to give notice to the Agency within 30 days after receipt of the final volume of waste. Violation of this section could be alleged in a situation in which an operator abandoned a site without notice.

Section 807.505(b) requires any final amendment to the closure plan to be filed at least 180 days before receipt of the final volume. The Agency would be allowed to act on the late application, but violation could be alleged in an enforcement action. This requirement serves two purposes. First, it should ensure that the Agency will have adequate time to review these applications. Second, it encourages operators to maintain a realistic closure plan which is up-to-date with current operations so that it could actually be executed in the event of unexpected cessation of operations (R. 74, 82, 938).

Whether an operator must send a notice of partial closure depends on whether the site has been divided into areas under Section 807.507 (R. 430, 687). If there are such areas, the operator must send notices as though they were separate sites. Otherwise, notice need not be sent until final closure is reached. However, such partial closure activities would have to proceed according to the permit.

Section 807.506 Initiation of Closure

This requires that the operator commence treatment, removal or disposal of all wastes from the site in accordance with the closure plan within 30 days after receipt of the final volume of waste. This rule serves two purposes. First, it establishes a time frame for closure to be considered by the Agency in reviewing a closure plan. Second, a violation could be alleged if an operator abandoned a site (R. 75, 367, 959).

The operator of an indefinite storage unit must either initiate removal of wastes and waste residues, or must initiate closure in accordance with the contingent closure plan.

Section 807.507 Partial Closure

Paragraph (a) allows the operator to file an application with the Agency dividing the site into areas. Each area must include at least one entire unit. If the permit specifies such areas, the Agency is to treat them as separate sites for purposes of financial assurance. This means separate closure plans and cost estimates. The operator could provide separate financial assurance for each area, or could lump pursuant to Section 807.642 (R. 51, 78, 92, 142, 363, 430, 433, 688, 957).

The Board construes Section 21.1 as requiring financial assurance for closure of any treatment or storage units associated with a disposal unit which are located on the same site. JCAR considered this, but made no objection. However, it recommended that the Board seek legislative clarification. Paragraph (b) prevents the use of the area mechanism to evade the requirement of financial assurance for associated treatment and storage units. Although they could be placed in separate areas, financial assurance would have to be provided.

An operator can group units which are already closed into areas which are already in post-closure care. The Agency should not require closure plans or cost estimates for these areas. However, paragraph (c) provides that post-closure care continues until the entire site is closed. The operator cannot use this mechanism to cut short the post-closure care for the site required by Subpart C.

The proposal contained a section specifying duties of the operator during closure. This has been dropped as inconsistent with Section 807.502 (R. 75, 367, 372).

Section 807.508 Certification of Closure

When closure is completed the operator and his engineer provide an affidavit to the Agency. When the Agency determines that the site has been closed in accordance with the plan, it notifies the operator of the date on which the post-closure care period begins (R. 76, 144, 155, 163, 165, 368, 421, 959).

The Board has dropped from the proposal a requirement that the operator specify the locations of special waste in the as-built plans (R. 163, 165, 368, 688).

Section 807.509 Use of Waste Following Closure

After closure an operator may accept waste as authorized in the closure plan. Operators often utilize construction debris as part of cover material or for subsidence and erosion control (R. 683). The Agency may control such usage by permit condition.

Section 807.523 Post-closure Care Plan

No general standard for post-closure care has been proposed. The operator will have to prepare a plan showing how he would comply with the post-closure care provisions specified in the rules specific to each type of disposal facility. Presently these would only be the rules applicable to sanitary landfills (R. 77, 369, 449, 458).

Operators of indefinite storage units must provide a contingent post-closure care plan which will have to be executed if the operator fails to remove all wastes and waste residues on closure (R. 369, 448, 455).

Section 807.524 Implementation and Completion of Post-closure Care Plan

The operator of a disposal site must implement the post-closure care plan commencing with certification of closure (R. 77, 371). The operator of an indefinite storage unit must implement the contingent post-closure care plan unless the Agency determines that he removed all wastes and waste residues during the closure period.

The Agency is to certify that the post-closure care period has ended when it determines that the post-closure care plan has been completed and that the site will not cause future violations. The length of the post-closure care period for sanitary landfills is determined from the existing Subpart C rules (R. 371).

SUBPART F: FINANCIAL ASSURANCRE FOR CLOSURE AND POST-CLOSURE CARE

Section 807.600 Purpose, Scope and Applicability

This Subpart provides the method by which the operator gives "financial assurance" to satisfy the requirement of Section 21.1 of the Act. The operator prepares closure and post-closure care plans pursuant to Subpart E. Operators of non-governmental disposal sites prepare cost estimates based on these plans. They must provide financial assurance in an amount equal to the cost estimate. Several mechanisms are provided by which the financial assurance can be given.

Section 807.601 Requirement to Obtain Financial Assurance

This Section paraphrases Section 21.1(a) of the Act. The phrase "unless such person has posted with the Agency a performance bond or other security for the purpose of insuring closure of the site and post-closure care in accordance with the Act and regulations adopted thereunder" has been replaced with "unless such person has provided financial assurance in accordance with this Subpart". The Subpart defines and implements the first-quoted language.

The Section also states the requirement to obtain financial assurance for an indefinite storage unit. This is defined in Section 807.104. As is explained above, these units must be required to provide financial assurance to satisfy the purposes of Section 21.1 of the Act.

Paragraph (a) includes the local government exemption taken from Section 21.1(a) of the Act. The Board construes this exemption to apply only when the governmental unit is actually conducting waste disposal operations: that is, when the governmental unit is the "operator". If the governmental unit is the "owner" of the site, but another person "conducts" waste disposal on the site, the other person must provide financial assurance for closure. A proviso has been added to state this expressly (R. 53, 64, 686, 782, 943). JCAR considered this matter and did not object to the Board's interpretation of the statute.

Paragraph (b) interprets the requirement to provide financial assurance by March 1, 1985. Sites which accept waste for disposal or indefinite storage after that date will be required to provide financial assurance, including both existing sites and future sites.

Section 807.602 Time for Submission of Financial Assurance

Sites existing on March 1, 1985 must provide financial assurance by that date. Future sites will be required to provide financial assurance prior to waste receipt. Plans and cost estimates must be provided with the permit application. The Agency will issue the operating permit with requirements to provide financial assurance as conditions, including a requirement to tender financial assurance prior to receipt of waste. There is nothing to keep the operator from tendering the financial assurance prior to permit issuance (R. 35, 262, 390, 460, 938).

Section 807.603 Upgrading Financial Assurance

The operator has 90 days to increase the amount of financial assurance if the cost estimate goes up or if the value of a trust fund goes down or if the operator is disqualified from self-insurance. Otherwise, the operator must maintain the financial assurance at least equal to the cost estimate at all times. For example, the operator must anticipate the cancellation or termination of financial instruments and substitute alternative instruments in advance of cancellation or termination. These provisions were with Sections 807.661 et seq. in the proposal, but have been grouped in the emergency rules.

Section 807.604 Release of Financial Institution

There are three types of releases which were provided with each instrument in the proposal. These have been grouped into separate sections for each type of release:

Section	
807.604	Release of financial institution following a substitution of financial assurance or release of the operator.
807.606	Release of the operator upon completion of closure and post-closure care.
807.661 et seq.	Partial release of financial institution following a reduction in cost estimate.

Partial release following completion of closure is to be treated as a reduction in the cost estimate by reducing to zero the closure cost element.

Section 807.605 Application of Proceeds and Appeal

There are basically two extreme enforcement situations which could arise involving closure. In the simple situation the operator is bankrupt or has simply abandoned the site and it will clearly be up to the Agency to arrange for closure. In the complex situation, the operator is on the site, but the Agency alleges violation of the rules and believes that closure is necessary to protect the environment. In the complex situation an enforcement action must be brought before the Board. If the Agency proved a violation, the Board could order that a closure plan be implemented, and that the proceeds of financial assurance be available for execution of the plan. In the simpler case this would be a needless formality (R. 116, 965).

The financial assurance instruments are governed by the general Illinois law pertaining to trusts, bonds, etc. If the conditions of the instrument obtain and the Agency gives the required notices, but the financial institution refuses to pay, the Agency should sue in Circuit Court, or whatever court may be appropriate. The filing of an enforcement action is not necessarily a condition precedent. However an enforcement action may be necessary to establish that the condition of the financial instrument has obtained.

Section 807.605(c) lists seven Agency actions which are deemed permit denials. These are tantamount to disapproval of a bond and are appealable as provided in Sections 5(d) and 21.1(e) of the Act. The necessity for Circuit Court resolution of these disputes is avoided by providing an appeal route (R. 118, 141).

Section 807.606 Release of the Operator

The Agency is required to release the operator from the requirement to maintain financial assurance for closure within 60 days after receipt of affidavits from the operator and his engineer that the site has been closed according to the plan. Paragraph (b) includes a similar provision for post-closure care (R. 118, 161, 384). The Agency can withhold release if it has reason to believe the closure has not been in accordance with the plan, or that continued post-closure care is required by the rules.

Section 807.620 Current Cost Estimate

The proposal differs from the RCRA rules in that under the Board rules cost estimates for closure and post-closure care are contained into a single cost estimate. The operator must give financial assurance in this amount. This reduces the volume of rules, but creates possible problems relating to release of closure assurance (R. 118, 384, 967). The rules do not prevent an operator from providing separate financial assurance for closure and post-closure care. The operator could obtain release of the financial assurance for closure by modifying the cost estimate on closure, reducing to zero the closure cost estimate.

Section 807.621 Cost Estimate for Closure

The operator is required to maintain a written estimate of the cost of closing the site. The cost estimate will be a permit condition, although revision of a cost estimate can be accomplished under Section 807.214 without filing a complete application (R. 119, 143, 385, 450).

The operator must estimate the "current cost" of closing the site assuming the work were to be done tomorrow. This is not to be discounted for the time lag to expected closure, nor is there to be an allowance for potential earnings of sums set aside for closure, or for inflation. These matters are addressed through periodic revision of cost estimates and evaluations of trust funds (R. 457). The term "current dollars" used in the proposal has been removed at the request of the JCAR staff, because of possible confusion on this point.

The operator must revise the closure cost estimate whenever a change in the closure plan increases the cost of closure. The operator must also update the cost estimate at least once every two years (Section 807.623).

The cost estimate must be based on the steps necessary for premature final closure of the site at the time in its intended operating life when the cost of closure would be greatest, or at the end of its intended operating life, whichever cost is greatest. As provided in Section 807.503, the operator must plan for both of these contingencies in the closure plan (R. 119, 385,

688, 719, 756). Once the point of maximum cost exposure has passed, the operator can revise the plan to reflect any decreased maximum future exposure.

The cost estimate must be based on third party costs: the operator must assume that the Agency will contract with an unrelated party to implement the closure plan. This will probably be the situation if the operator becomes bankrupt or abandons the site, so that the third party cost assumption forms a better estimate of the potential liability (R. 304, 309, 385, 396, 454, 522, 700, 785, 1139).

The cost estimate may not include an allowance for salvage value for waste or equipment, or the resale value of the completed landfill. These items are speculative, and the value may depend on whether the site has been properly operated and closed. Since the proceeds would be applied in a situation in which the operator had failed in one of these areas, the salvage value should not be included in the estimate (R. 304, 307, 385).

The rule details the elements which go into the cost estimate (R. 690, 849). This rule does not require that sites provide these items on closure. However, they must be included in the estimate if required for closure of the site.

The most important cost elements are the area to receive final cover and the cost of obtaining and placing the cover. If an operator has an identified source of adequate cover on the site, his closure cost estimate will likely be much less than an operator who will have to purchase and transport cover to the site (R. 690, 700, 719, 762, 1056, 1059, 1165).

The closure plan and cost estimate should only address the activities which are to be done at the point of premature or final closure. Activities which are done in construction or normal operation of the site in anticipation of closure should be addressed in the construction or operating permit. The operator should not be required to pay for a closure activity and still maintain financial assurance for that activity.

Section 807.622 Cost Estimate for Post-Closure Care

The cost estimate for post-closure care is based on the annual cost of monitoring and maintenance times the number of years of post-closure care required. For sanitary landfills this is three years (R. 120, 150, 386).

The cost estimate is based on the expected costs of post-closure care as disclosed in the post-closure care plan (R. 120, 138). There is no provision for contingency funding to pay for unanticipated costs such as might result from a liner failure or retrofitting of a leachate collection system. Nor is there any provision for third party liability insurance. Section 21.1 of the Act is limited to financial assurance for the expected costs of closure and post-closure care.

The major cost elements include cover stabilization and groundwater monitoring. The operator should estimate the percentage of the cover which will require remedial action to control erosion or subsidence each year. The number of parameters and frequency of groundwater monitoring should be specified by the Agency in the permit (R. 385, 690, 700, 719, 724, 849).

Section 807.623 Biennial Revision of Cost Estimate

The proposal required the operator to adjust the cost estimate for inflation on an annual basis based on the GNP deflator. Several revisions to the inflation adjustment provisions were suggested at the hearings. These included:

1. Prospective inflation adjustment at the outset, in which the operator projects an inflation rate at the outset throughout the expected operating life (R. 120, 693, 968).
2. Annual prospective adjustments based on last year's inflation rate (R. 386, 397, 422, 424, 453, 457).

The problem with long-term prospective inflation adjustment is that the formulas are very involved and the result is no better than the inflation forecast. The Agency would have to review economic forecasts. There would also have to be a mechanism for reviewing the projected closure cost against actual inflation, and a requirement of modification if they got too far out of line.

Short-term prospective adjustment requires the operator to estimate the cost today, then determine the cost to close in one year, assuming the inflation rate in the coming year will equal the rate during the preceding year. The cost to close in one year would then become today's cost estimate. This approach reflects reality rather well, in that the operator is more likely to close a year later than on the date the estimate is prepared and last year's inflation is a good estimate of next year's. However, it is likely to introduce a lot of confusion to gain an adjustment which may be less than the other uncertainties involved.

The Board has determined to utilize a biennial review of the cost estimates, with adjustments to reflect actual changes in cost elements. This gets the Agency totally out of the business of reviewing inflation figures, and into reviewing actual costs with which it should have ongoing experience. It would be helpful if the Agency compiled current unit cost figures from permits for distribution to the public.

The biennial update will not be nearly so burdensome as an annual update (R. 693). Also, the Board has provided an abbreviated application mechanism for the revised cost estimates which do not result from a change in the plans (Section 807.214).

The operator is required to update the cost estimate at least once every two years. If the operator updates the cost estimate in connection with a permit modification before revision is due, the two years starts over.

Section 807.624 Interim Formula for Cost Estimate

The permanent structure of the rules follows the site-specific plan/cost estimate approach. This has many advantages, including the ability to accommodate site-specific factors, the specification of duties on closure, and financial incentives to adopt operating modes with less cost exposure (R. 188, 290, 689). However, there were not enough engineers in the State to prepare the needed plans and cost estimates by March 1, nor enough employees at the Agency to review the submissions (R. 179, 694, 768, 774, 779, 850, 852, 876, 902). The Board therefore adopted a formula which, although it gives only a crude estimate of potential costs, can be used as an interim measure to fix the amount of financial assurance.

The EcIS includes formulas which appear to relate total site area and maximum open area to daily volume, based on the results of a mailed survey, a review of the permit files and a 1981 inventory of sites. The formulas are on p. 57 of the EcIs. Note that "log" is intended to mean "natural logarithm". (R. 1086)

It would be possible to write a rule basing cost estimates on daily volume using these formulas, instead of requiring plans and cost estimates. There are fundamental problems with such an approach, and there is doubt as to whether the formulas are valid.

If the formulas were written into the rules, the program would lose the benefits of the site-specific plans and cost estimates discussed above. In particular, there would be an incentive to design landfills so as to take advantage of the formulas, with no assurance as to whether the design would actually result in a lower closure and post-closure care cost.

Furthermore, the formulas were used by the contractor only for interpolation purposes, not as a substitute for available data. (R. 1165, 1167) The formulas have not been tested well enough to base the rules on them. The data on maximum open area was drawn from a small number of sites, and represents the operators' subjective estimates without field verification. (R. 1170, 1176, 1179) The formula for total site area appears to give results two or three times larger than expected. (R. 1163)

Each operator will be required to file a closure plan and cost estimate whenever he files the next application to modify the permit. Plans and estimates will be required for all sites by March 1, 1988. Operators will be allowed the option of providing a plan and cost estimate initially, which they should do if the formula disadvantages them (R. 880).

The cost estimate based on the formula will serve as a cost estimate under the rules. The requirements to close in accordance with the plans will be understood to mean in accordance with the existing permit conditions and closure and post-closure care regulations for financial assurance instruments based on the formula.

The formula cannot be used to calculate financial assurance under the RCRA rules.

The most important element of the cost estimate is the area which will need final cover. There are several considerations affecting the projection of this area. The first is the area which is presently in need of final cover. This necessitates a brief discussion of types of cover. Existing Section 807.305 provides for three types of cover:

a) Daily Cover - a compacted layer of at least 6 inches of suitable material shall be placed on all exposed refuse at the end of each day of operation.

b) Intermediate Cover - at the end of each day of operation, in all but the final lift of a sanitary landfill, a compacted layer of at least 12 inches of suitable material shall be placed on all surfaces of the landfill where no additional refuse will be deposited within 60 days.

c) Final Cover - a compacted layer of not less than two feet of suitable material shall be placed over the entire surface of each portion of the final lift not later than 60 days following the placement of refuse in the final lift, unless a different schedule has been authorized in the operating permit.

The Board construes Section 807.305 to mean that a total of at least two feet of cover must be over the waste when closure is completed (In re Ch. 7, R72-5, 8 PCB 695, July 31, 1973; IEPA v. Giachini, PCB 77-143; 33 PCB 547, May 24, 1979).

Many landfills apply intermediate cover to completed areas, leaving final cover to closure of the entire site. Others apply final cover as soon as an area or trench is completed (R. 768, 789, 798, 853, 855, 857, 869, 878, 904, 908, 910). Intermediate cover is subject to erosion if it is not seeded and maintained (R. 858). It is difficult to judge the depth and sufficiency of the intermediate cover (R. 870, 905, 910). Because of the need to base the formula on simple facts not likely to be subject to dispute, the Board allowed deduction from the presently affected area only the area which had received full final cover.

Most sites plan to apply final cover to much of the site before final acceptance of waste, such that only a very small area is expected to remain on closure (R. 787). As has been

discussed above, the financial assurance requirement needs to be based on closure at the point in the expected operating life when the cost of premature closure would be the greatest, which may not correspond with the expected final closure. However, it is not possible to determine the point of maximum cost exposure without review of a site-specific plan. The formula has to use a method for computing the maximum exposure with reference to facts which are not likely to be subject to dispute.

Mr. Lynch suggested a formula which predicts the amount of exposed refuse generated after a certain number of years, (Y), based on the average depth (AD) of the landfill and the annual volume of waste (AWR) received (R. 691, 703, 717, 723). It should be possible to determine both of these from the site permit (Section 807.316). If the permit is not up-to-date, it should be possible to measure the actual depth, and determine the actual receipts in recent years. The formula is as follows, with the area in acres:

$$A = \frac{(Y)(AWR)}{(3200)(AD)}$$

It is necessary to specify a value for Y, the number of years of waste accumulation. Y is a projection of the number of years which would elapse between the cessation of normal cover activities by the operator and the initiation of site closure by an Agency contractor. The formula will give the area to be covered assuming people continue to dump at the same rate after the operator stops covering. During this period the operator's non-compliance would come to the Agency's attention, inspections would be conducted, letters sent, enforcement initiated, hearings held, an order entered and appealed, and a contract let. Based on past experience, this would likely take three years (R. 671, 718, 729, 785). The Board has therefore assigned a value of three to Y in the formula.

The acreage requiring cover is computed by adding the presently exposed area to the projected exposed area which could be created within three years. However, this cannot exceed the total permitted area which has not received final cover as of January 1, 1985.

The next major element in the formula is the cost per acre (CPA). Most of this is the cost per cubic yard for cover material. Ideally this should include the cost to purchase the cover, lift it, transport it, spread and grade it (R. 698, 762, 847). The Board received three estimates of this cost:

Cost per Cubic yard	
$1.00	R. 692, 698
1.30	R. 763, 768, 771, 783
2.30	R. 847, 891, 897

These costs all assume that cover material is available within a short distance of the site (R. 692, 771, 847, 861). If the cover must be transported a great distance, the cost would be four to five times greater (R. 692). The Board is prepared to assume for purposes of the interim rule that a source of cover material is readily available at each site.

The $2.30 figure is based on a contract recently let by the Agency for the Broverman/Taylorville landfill which is being closed with State funds (8 Ill. Reg. 23951, December 14, 1984). In many respects this may be the best estimate of what it might cost the Agency to close a site in the future. However, this landfill was a hazardous waste site with a large uncovered area which was never operated in accordance with the regulations (IEPA v. Harold Broverman and Theodora Baker d/b/a Taylorville Landfill, PCB 76-114, 28 PCB 123, November 10, 1977; Fifth District, penalty reduced (Rule 23 Order), May 25, 1979). For purposes of the interim rule the Board will accept $1.30/cubic /ard as the best estimate of the cost of cover.

It takes around 3200 cubic yards of material to cover an acre to a depth of two feet (R. 763, 692). At $1.30 per cubic yard, this results in $4,160 per acre. The cost of establishing vegetation must be added to this. Although the rules do not explicitly require the operator to establish vegetation, it is necessary to stabilize the cover against erosion (R. 692, 763, 893). If vegetation were omitted from the closure cost, it would be necessary to include a greater allowance for erosion in the post-closure care cost.

The Board has received three estimates of the cost of establishing vegetative cover:

Cost per acre	
$500	R. 763
$832	R. 692
$1235	(Ex. 18)

The Board will accept the $832/acre figure as the best estimate of the cost of establishing a vegetative cover. Together with the cost of cover material, the cost per acre to cover is approximately $5000/acre, which the Board will utilize as the value for CPA in the formula.

There are other elements which would go into a complete closure plan and cost estimate (R. 892, 900). However, it does not appear feasible or necessary to include them in the interim formula.

The post-closure care cost formula includes the annual cost of subsidence and erosion repair, and the cost of groundwater monitoring (R. 693, 764, 858). Subsidence and erosion depends on the percentage of the total cover area which requires repair each year (P). The Board has received two estimates:

2%	R. 764
5%	R. 693

The Board has accepted 5% as the percentage of the total cover which will require repair during each year of the post-closure care period.

The other element of post-closure care cost is the cost of sampling groundwater. The rule assumes that monitoring wells will be constructed during the operating life of the site, so that no allowance has been made for construction (R. 777). The sampling cost depends on the number of wells, the frequency of sampling and the number of parameters analyzed. All of the witnesses agreed on quarterly sampling (R. 692, 765, Ex. 18).

Two witnesses suggested formulas involving a cost per well, while the Agency suggested requiring four wells (R. 692, 765, Ex. 18). Permits should specify certain well locations (R. 777, Section 807.316(a)(15)(A)). However it is possible that some sites may not have wells specified. A minimal program involves one well upgradient to establish the background water quality, and two wells downgradient to detect leaks. The Board has therefore specified three as a minimal number of wells to be used in the formula. Any greater number actually existing or specified in the permit will be included in the formula.

A basic permit should require analysis for alkalinity, boron, chloride, pH, residue on evaporation, specific conductance, sulfate and total organic carbon (R. 765, 894). The cost of basic sampling and analysis is about $150 per sampling (R. 692, 724, 765, 777). The Agency reports a range of $133 to $696 per sampling with an average of $288 per sampling (Ex. 18). The higher costs appear to result from analysis beyond the eight basic parameters (R. 894).

The Board accepts $150 per sampling as a good estimate of the basic sampling cost. With four samplings per year, this works out to $600 per well per year.

To recapitulate, the interim formula for the cost estimate is as follows. The area requiring cover (A) is the sum of the existing exposed area plus the potential future exposed area according to the following formula:

$$A = A(\text{Existing}) + \frac{3\ AWR}{3200\ AD}$$

A cannot be greater than the total permitted area which has not received final cover.

The closure cost estimate is:

$$CCE = (CPA)(A) = (\$5000/\text{acre})(A)$$

The post-closure cost estimate is:

PCCE = 3((CPA)(P)(A) + (600)(M))
= 750A + 1800M

The complete cost estimate is:

CE = 5750A + 1800M

The number of wells (M) cannot be less than three.

The EcIs computed cost estimates by a comparable formula. The study formula estimated the area requiring cover based on a survey instead of the daily volume interim formula used above. Also, the study used the total site area to estimate the maintenance and monitoring costs.

The EcIS estimated the area requiring cover primarily through a survey mailed to each site, including those not thought to be subject to financial assurance (R. 1065, 1083, 1170, 1173, 1179). The contractor developed a formula relating daily volume to open area for the sites which responded to the survey (R. 1086, EcIS p. 57). For most sites the study used the open area computed from the daily volume according to the formula (R. 1176).

The EcIS estimated the closure cost at $5,971.20/acre. This is based on $2.60 per cubic yard for cover material, plus $808/acre for seeding and fertilizing (R. 1057, 1059; EcIS p. 49).

The EcIS based maintenance of the site on the total area of the site. (R. 1059, EcIS p. 49). The site area was drawn from the contractor's survey, Agency permit files and a 1981 inventory of landfills (R. 1066). For some sites the total areas were estimated from the daily volume according to a formula drawn from the sites for which data was available (R. 1165).

The maintenance cost estimate assumed that 3.5% of the total site area required replacement of cover, and 5% of the total site required seeding and fertilizing each year for three years (R. 1057, 1059, 1086, 1129, 1164, EcIS 50). The study also includes $25/acre/year for mowing. This works out to $155.76/acre/year, or $467 for maintenance for three years of the entire site area (R. 1059, EcIS 52).

The EcIS based monitoring cost also on the total site area. The study assumed a minimum of four wells for sites smaller than 10 acres, plus one well for each additional twenty acres up to 100 acres. Thereafter, one additional well was assumed for each 50 acres (R. 1057, 1059, 1080, 1082; EcIS p. 50).

The EcIS assumed a cost of $150 per sampling. Four samplings per year over a three-year period results in an $1,800 monitoring cost per well (R. 1059, EcIS p.49).

The EcIS included only aggregate amounts without displaying its cost estimates for individual sites. At the hearing, the contractor presented average values for the data (R. 1077, 1153). A typical site is as follows (Ex. C-2):

Maximum open area	2.9 acres
Daily waste received	1592 cubic yards
Total site acreage	64 acres
Monitoring Wells	6

Applying the EcIS cost estimate formula, one gets:

Closure $5,971.20	x 2.9	=	$17,316.48
Maintenance 467.00	x 64	=	29,888.00
Monitoring 1,800	x 6	=	10,800.00
Cost Estimate			$58,004.48

This is approximately equal to the average cost estimate derived by dividing the aggregate cost of $8,900,000 by 152 sites.

Section 807.640 Mechanisms for Financial Assurance

The operator may use any of the following mechanisms:

1. Trust fund
2. Forfeiture bond
3. Performance bond
4. Letter of Credit
5. Closure insurance
6. Self-insurance (for non-commercial sites only).

Section 807.641 Use of Multiple Financial Mechanisms

The operator may use a combination of trust funds, forfeiture bonds, letters of credit and closure insurance to give financial assurance for a site. Performance bonds and self-insurance cannot be used in combinations.

Section 807.642 Use of a Financial Mechanism for Multiple Sites

The operator may use a single mechanism to provide financial assurance for more than one site. The amount is the sum of the cost estimates for the sites.

Section 807.643 Trust Fund for Unrelated Sites

The Board has allowed a multiple unrelated operator's trust fund in which several operators contribute to a single trust.

This should reduce each operator's share of the administrative cost of maintaining the trust. (R. 1055)

The trust works just like Section 807.661, with a few exceptions. The trustee must maintain books which show each site's account. The evaluation is made on the date of creation of the trust, regardless of the dates each site joined. Payments out of the trust for a specific site are only from the account for each site.

Section 807.644 RCRA Financial Assurance

The operator is not required to give financial assurance under Part 807 if he demonstrates that the RCRA closure and post-closure plans will result in closure and post-closure care in accordance with the requirements of Part 807, and that he has provided adequate RCRA financial assurance. If there are closure activities required under Part 807 which are not required under the RCRA rules, the operator can either include the Part 807 activities in the RCRA plan and increase the RCRA financial assurance, or provide a separate Part 807 plan and financial assurance.

Section 807.661 Trust Fund

The operator may satisfy the financial assurance requirement by establishing a trust fund for the benefit of the Agency. The trustee receives annual payments during the operating life of the site. Upon closure the trustee pays out as directed by the Agency. The trustee pays the operator if he closes the site, or, alternatively, pays the Agency's contractor.

The trustee must be an entity with authority to act as a trustee. Illinois firms must be regulated by the Illinois Commissioner of Banks and Trusts. Out-of-state firms must comply with the Foreign Corporations as Fiduciaries Act (Ill. Rev. Stat. 1983, ch. 17, par. 2801 et seq.). The Agency should reject financial assurance in the form of a trust unless the trustee complies with these requirements. Limiting trustees to those supervised by the Commissioner of Banks and Trusts provides assurance that the trustee will carry out its duties in a manner such that funds will be available for closure (R. 206, 215).

The Board will specify the form of trust agreements in Appendix A (R. 123, 390).

The operator must make a payment into the trust fund each year during the "pay-in period," which is equal to the number of years remaining until the site reaches the point in its operating life at which the cost of premature closure would be the greatest (R. 688, 757). The Board has also specified that the pay-in period be not less than three nor more than ten years, so as to avoid requiring immediate full funding for sites which may already be at the point of maximum closure cost, and yet to

assure reasonably prompt funding for all sites (R. 388, 398, 782, 1092, 1132). It is necessary to specify limits since Illinois permits are of indefinite duration (R. 688).

An operator who elects to utilize the trust fund mechanism has an obligation to the State to fund the trust and to provide closure and post-closure care in accordance with these rules. Closure and post-closure care costs are a necessary expense associated with landfill operations. This expense should be recognized during the operating life of the site, rather than being postponed to the time of actual closure (R. 244, 474).

The trustee must evaluate the trust annually. The trustee will be obliged to invest the funds under the terms of the agreement. (R. 1093, 1137) The annual evaluation will reflect the losses or gains. (R. 1138) The operator will have 90 days to make up any shortfall resulting from evaluation (Section 807.603). The operator can also request release of profits in excess of the cost estimate (Section 807.661(e)). The evaluation date can be moved up for the convenience of the operator or trustee.

Under paragraph (g)(2) the Agency has 60 days to determine whether expenditures are in accordance with the plan. If so, it instructs trustee to reimburse the person providing closure. Pursuant to JCAR staff comments, the phrase "or are otherwise justified" has been deleted. The related language in Section 807.665(f) has also been dropped.

The proposal was drawn from 40 CFR 264.143(a). The other changes from the proposal include the following:

1. Time for submission by new facilities has been moved to Section 807.602.

2. Requirement to update the trust agreement with a change in the cost estimate has been deleted.

3. Provisions on release have been moved to Sections 807.604 and 807.606.

The EcIS concluded that the one-operator trust fund would be the most expensive mechanism (R. 1055, 1061, EcIS p. 19, 41). This is in part because the banks surveyed charge large fees and pay low interest on the trust corpus (R. 1093, 1137). Annual fees average about 6.33 percent of the cost estimate (R. 1061). Also, the study failed to pick up the changes in the pay-in period in the December 27 Order (1095, 1132). Actually, of the 91 sites which had complied with the temporary rules by the time of the economic impact hearings, 36 utilized trusts (R. 1101).

Section 807.662 Surety Bond Guaranteeing Payment

The operator may satisfy the financial assurance requirement by tendering a surety bond guaranteeing that the operator will close the site in accordance with the plan or the surety will pay the amount of the bond which is based on the current cost estimate. This mechanism assumes that the operator will provide closure, with the surety liable only on default.

The surety company must be licensed by the Illinois Department of Insurance. The Agency should reject bonds in which the surety is not so licensed. This requirement will assure oversight of the financial institution to insure that funds will be available when needed. This requirement will not restrict the number of surety companies available significantly since the majority of sureties acceptable in Circular 570 of the U. S. Department of the Treasury are licensed in Illinois (R. 221, 227).

The Board will specify the form of bonds in Appendix A (R. 123, 461, 465).

The Board has eliminated the requirement of a standby trust fund to receive payments made under the bond. Any such payments will be placed in the landfill closure and post-closure fund where they may be earmarked for application to the site pursuant to Section 22.1(c) of the Act. Deletion of the standby trust fund will save costs for the regulated community (R. 390, 461).

The bond must guarantee that the operator will provide closure and post-closure care in accordance with the plans in the permit. The surety becomes liable when the operator: abandons the site as defined in Section 807.104; becomes bankrupt; fails to initiate closure at the time the Board or a court orders closure to begin; or, initiates closure, but fails to complete closure and post-closure care in accordance with the plans.

Abandonment occurs when the operator fails to initiate closure within 30 days after receiving a final volume of waste. If no waste is received within a 30-day period, the operator must demonstrate that it expects additional waste (Section 807.104).

Bankruptcy renders it highly unlikely that an operator will be able to perform closure and post-closure care. It has therefore been listed as a condition triggering the surety's liability.

Abandonment and bankruptcy represent simple factual situations which do not directly involve the question of whether the operator is in compliance with environmental regulations. If the surety refuses to pay on notice, the Agency should sue in Circuit Court, which would make the determination as to whether the abandonment or bankruptcy had in fact taken place.

The surety does not directly guarantee that the operator will comply with Board regulations and permit conditions in operation of the site. If the Agency believes a site is poorly operated, it must file an enforcement action to obtain a finding of violation. If the order directs closure of the site, the surety becomes liable only if the operator fails to close as ordered.

The fourth condition of default would occur when the operator starts to close the site but fails to complete the job as specified in the closure and post-closure care plans. This is similar to a construction contract bond in which the surety becomes liable if the contractor fails to build a building according to specifications.

The amount of the bond must be at least equal to the cost estimate. The Agency must approve a reduction in the amount whenever the cost estimate decreases. However, the operator must first request the reduction, and the surety is not obliged to agree to it. If the Agency disagrees with the reduction in the cost estimate, it should reject the cost estimate pursuant to Section 807.214. If it accepts a reduced cost estimate, it must approve a reduction in the bond amount. This language has been clarified pursuant to JCAR comments. Similar changes have been made in Section's 807.663(f)(2) and 807.664(f)(2).

The proposal was drawn from 40 CFR 264.143(b) but differs in one respect. That Section allows for cancellation of the bond by the surety on a 120-day notice to the Agency and the operator, but makes the failure to obtain other financial assurance in a 90-day period a condition leading to liability by the surety. Surety companies object to this open-ended liability (R. 796, R. 1097, EcIS, A-7, 14). In order to attempt to make bonds more available to operators, the Board has specified that bonds be for at least four years, but has dropped the provisions making cancellation a condition leading to liability. The four years would provide assurance for a reasonable period of time during which the Agency could file an enforcement action and obtain a closure order if operations turned bad. Four years seems to be within the range of construction projects. This change does leave the State in an exposed position if the operator does not provide additional assurance on termination of a bond. According to the second telephone survey conducted for the EcIS, this modification did not satisfy the suretys' objections (EcIS A-30).

The Board has provided for an automatic twelve-month extension of the surety's liability if the operator fails to provide substitute financial assurance. The Agency should file an enforcement action alleging only failure to provide financial assurance if it wishes to ensure completion of the proceedings during the twelve-month period.

The following provisions of the proposal have been moved to other Sections:

1. When financial assurance must be submitted;

2. Requirement to increase the amount of financial assurance;

3. Release of operator;

4. Release of financial institution.

Section 807.663 Surety Bond Guaranteeing Performance

The performance bond is identical to the forfeiture bond except that the surety has the option of implementing the closure and post-closure care plans instead of paying the penal sum. The performance bond is specifically mentioned in Section 22.1 of the Act. However, the State may encounter difficulties in supervising a surety in the performance of closure (R. 392).

The EcIS concluded that bonds would be one of the less expensive mechanisms for financial assurance since they involved no acceptance fee and had a low annual fee of around 2.1% of the cost estimate (R. 1054, 1096, 1131, EcIS p. 40). Also, bonds were not restricted to regular customers (R. 1140). However, of the 91 sites which had provided financial assurance by the time of the EcIS hearings, only three actually used bonds (R. 1101, Ex. C-3).

Section 807.664 Letter of Credit

The operator may satisfy the financial assurance requirement by obtaining a letter of credit from a financial institution. The letter of credit is similar to a bond in that it assumes that the operator will provide closure. If he fails, the Agency writes a draft against the letter of credit and presents it for payment through banking channels. The issuing institution pays the draft, and then attempts to collect from the operator the amounts paid like a loan.

The financial institution must be an entity with authority to issue letters of credit. Its letter-of-credit operations must be regulated by the Illinois Commissioner of Banks and Trusts, or it must be insured by FDIC or FSLIC.

The Agency should reject financial assurance in the form of letters of credit from institutions which do not meet one of these criteria, which criteria are intended to provide assurance that the financial institution will be managed in such a way that funds will be available for closure. Although FDIC and FSLIC do not actually insure letters of credit, their oversight provides some assurance of continuity of the financial institution (R. 208, 213, 216).

The Board will specify forms for letters of credit in Appendix A.

The Board has deleted the proposed requirement of a standby trust fund. Any payments under a letter of credit will go into the landfill closure and post-closure fund in the State Treasury pursuant to Section 21.1 of the Act. This should reduce compliance costs (R. 390, 461).

The Agency is allowed to draw on the letter of credit if the operator fails to provide closure and post-closure care in accordance with the plans. The Agency may draw under the same conditions as for a bond.

As it did with the bonds, the Board has provided that letters of credit are irrevocable for at least four years, but has deleted the proposed conditions allowing the Agency to draw on the letter of credit if the operator fails to provide additional financial assurance on notice of cancellation.

The EcIS concluded that letters of credit should be widely used instrument because there is no acceptance fee and an annual premium of only about 1.6 percent of the cost estimate (R. 1054, 1061, 1097, 1136, 1141, EcIS, p. 39). The letter of credit was actually used by 35 of 91 sites which had provided financial assurance by the time of the economic impact hearings (R. 1101).

Section 807.665 Closure Insurance

The operator may satisfy the financial assurance requirement by providing closure insurance with the Agency as a beneficiary. Closure insurance is similar to a trust fund in that payment is not dependent on any default of the operator: the insurance company pays even if the operator voluntarily closes the site and does the work.

The insurance company must be licensed to transact the business of insurance by the Illinois Department of Insurance. The Agency should reject as financial assurance any insurance from a firm which is not so licensed. Oversight by the Department of Insurance is necessary to assure that the insurance company is managed in such a way that funds will be available for closure (R. 221, 391).

The closure insurance policy must be approved by the Department of Insurance (R. 223, 225, 228).

The insurance company becomes liable to pay out on the policy whenever: the operator abandons the site; the operator becomes bankrupt; the Board orders the site closed; the operator notifies the Agency that it is initiating closure; or, the operator initiates closure. The insurer must pay out funds at the direction of the Agency to whomever is providing closure or post-closure care.

An insurance policy can be cancelled only for failure to pay the premium. As closure approaches the operator builds equity in

the policy which he is entitled to on closure. The insurer must give the Agency 120 days' notice before cancellation for non-payment of the premium. The insurer cannot cancel if the premium due is paid by the operator or the Agency.

The proposal specified abandonment, bankruptcy, etc. as conditions preventing cancellation. These have been reworded to be consistent with the rest of the proposal and have been stated with the guarantee of the policy. If the insurer becomes liable under paragraph (e) during the cancellation grace period, it continues to be liable after the period has ended.

The proposal provided specifically that failure to pay the premium was a violation of the regulations. This has been dropped as unnecessary. If the failure to pay results in inadequate financial assurance, the operator will be in violation of Section 21.1 of the Act and Section 807.601.

The EcIS concluded that closure insurance would not be utilized because no companies would write the insurance, and that annual premiums would range from 7 percent to 15 percent of the cost estimate (R. 1056, EcIS p. 41). None of the 91 sites which had provided financial assurance by the time of the EcIS hearings used closure insurance (R. 1101).

Section 807.666 Self-insurance for Non-commercial Sites

The Board has added a self-insurance provision to the proposal. The rule is largely drawn from the federal RCRA financial test of 40 CFR 264.143(e).

Section 22.1 of the Act requires a "performance bond or other security." The RCRA financial test alone does not meet this description. The Board has therefore required operators seeking to use the financial test to provide a bond without surety. The assets of the firm will be sufficient security if the operator meets the financial test and other requirements of the Section. The bond without surety will place the State in a better position as a creditor in the event of the operator's bankruptcy. The bond will provide a liquidated amount which the State can claim against the operator's assets. Furthermore, the language of the bond places the burden of proof on the operator to prove that he provided closure and post-closure care in accordance with the bond conditions (R. 128, 281, 288, 316, 323, 332, 426).

The financial test is intended to identify firms with financial problems sufficiently far in advance so that the firm still has assets to provide alternate financial assurance (R. 311). The test balances reliability against availability: the test attempts to exclude all firms which will become bankrupt, and to pass all firms which will not become bankrupt (R. 318).

USEPA selected 15 financial ratios from a list of possible ratios. It arrived at the financial test after testing these 15 against samples of bankrupt and non-bankrupt firms. The USEPA financial test is expected to allow 96% of non-bankrupt firms to pass, but is expected to pass only 0.1% of firms which will later enter bankruptcy (R. 345).

In choosing the financial test, USEPA sought to minimize the sum of the public and private costs, reasoning that increased to operators were passed on to the public. The balancing involved public and private administrative costs as well as possible public costs from unfunded closure (R. 320).

The RCRA financial test is capable of predicting impending bankruptcy sufficiently far in advance that the firm should have sufficient assets to provide alternate financial assurance at the time it fails the test, even if its financial condition is rapidly deteriorating (R. 311, 319, 353, 415, 517).

The financial test includes alternate provisions involving bond ratings for firms with publicly-held debt and ratios which can be used by firms without ratings. The bond rating test is often used by public utilities, which have trouble meeting the ratio tests, but which are financially sound (R. 270, 312, 315, 330).

To meet the financial test, an operator must have a tangible net worth which is:

1. At least six times the current cost estimate; and

2. At least $10,000,000.

The $10,000,000 tangible net worth requirement is related to the probability that a firm will become bankrupt: exclusion of firms with a lesser tangible net worth reduces the frequency of bankruptcy by fifty percent (R. 239, 247, 281, 312, 326, 331, 343, 355, 509). The requirement of a tangible net worth at least six times the cost estimate is an indicator of whether a firm is large enough to complete the closure and post-closure care to which it has obligated itself (R. 239, 312, 326, 328, 330, 355, 509).

The operator is also required to provide an opinion from a certified public accountant. An adverse opinion or disclaimer will be cause for disallowance. Other qualifications may result in disallowance of the test (R. 240, 268, 313, 518).

A more stringent financial test could be constructed by adding a requirement that the ratio of net fixed assets to total assets be greater than 0.3. The Wisconsin financial test incorporates this ratio (R. 346, 350, 352, 516, 525). The Board sees no need to make the test more stringent.

The RCRA test is based on studies of the bankruptcy rates for firms other than commercial disposal firms (R. 232, 347, 415, 503). The RCRA financial assurance requirement applies to hazardous waste treatment and storage facilities, as well as disposal facilities, and applies on-site as well as off-site. Off-site hazardous waste disposal facilities are only a tiny fraction of the RCRA universe, which consists mostly of manufacturing concerns managing their own waste (R. 332, 417). The Illinois financial assurance requirement under consideration applies almost entirely to off-site disposal (Sections 21(d) and 21.1 of the Act).

Firms which meet the financial test tend to be large diversified companies. However, if the test were applied only to firms in any specialized line of business, the State would be subject to greater risk because the economy could turn against that specialized line, resulting in a large number of unfunded closures. The firms which could use the test under this proposal would be almost entirely engaged in a single line of business: commercial waste disposal. Furthermore, these firms are in a highly regulated area with high exposure to rapidly changing regulations. The firms are all exposed to major liability for potential environmental damage they may be causing (R. 315, 347, 351, 354, 419).

The Board has restricted use of the financial test to firms which are not engaged in commercial waste disposal. This is defined in terms of whether the firm derives more than 50% of its gross revenue from waste disposal activities. The definition suggested at the hearing was more than 80% of gross revenue in waste management activities (R. 352). The Board has lowered the percentage to 50%, but has used disposal as a criterion. Therefore a firm also involved in commercial waste treatment may be eligible for the financial test.

Participants suggested a test at the hearings and in the public comments. The suggested test was that the tangible net worth exceed the cost estimate (R. 796; NSWMA comment of October 26, 1984). Since the cost estimate is not treated as a liability in computing tangible net worth, it is possible that a firm could meet this test and immediately declare bankruptcy simply by recognizing its obligation to provide closure and post-closure care as a liability (Appendix A). This would be short of the three years prediction needed to make certain that the operator has sufficient assets to provide alternate financial assurance at the time it first fails the test.

It may be possible to construct a financial test which commercial disposal operations could meet. However, the participants in this rulemaking came forward with no firm evidence suggesting the ability of any test to predict the failure of such firms sufficiently far in advance that alternate financial assurance could be provided.

Participants have provided evidence that small landfills may not be able to obtain financial assurance, and may hence have to close (R. 174, 186). Participants have suggested a financial test as a way of avoiding such closures, which would be a hardship on the public in some areas of the State, as well as operators. However, for the reasons noted above, operations with a smaller tangible net worth and the ones most likely to become bankrupt.

Part 104 and Title IX of the Act provide a variance mechanism by which operators which experience arbitrary or unreasonable hardship may temporarily avoid the bond requirement.

Following the merit hearings it appeared that the $10,000,000 tangible net worth test and the gross revenue test would allow few, if any, disposal sites to utilize self-insurance. The EcIS reached the same conclusion (R. 1098, EcIS p. 34). However, of the 91 sites which had provided financial assurance by the time of the EcIS hearings, 16 utilized self-insurance (R. 1101, Ex. C-3).

The Board has received no requests for variances since the emergency rules were adopted. 91 out of an estimated 168 sites had provided financial assurance by the time of the EcIS hearings (R. 1101, 1104, Ex. C-3). The sites which had not complied are smaller sites, including sites receiving only construction debris (R. 1105).

The RCRA rules provide that a parent corporation can guarantee the operator's cost estimate if the parent meets the financial test. The Board has specified a form on which the parent's guarantee must be made. This is similar to the forfeiture bond form.

The RCRA rules limit the corporate guarantee to parent corporations which own more than 50% of the operator's voting stock (40 CFR 264.141(d)). The Board has dropped the 50% requirement, but continues to require some ownership interest in the operator. Unrelated firms offering this type of guarantee are in the business of writing surety bonds, and should be licensed by the Department of Insurance (R. 221, 227, 245, 271, 280, 324).

The Board has continued to limit financial tests and guarantees to corporations. The financial tests are geared toward corporate accounting practices, and no one has proposed a test applicable to individuals. Furthermore, there is a chance that an individual will die, leaving the State in a position in which it would have to claim against the assets of an estate (R. 246, 272).

The Board made several changes to the self-insurance provision pursuant to JCAR staff comments. The Board has added definition of "generally accepted accounting practices." This

incorporates Accounting Standards, published by the Financial Accounting Standards Board, High Ridge Park, Stanford, CT 06905. The Board has also modified the definition of "tangible net worth" to read more like the other definitions.

The first ratio test in Section 807.666(e)(1)(A)(i) was wrong in the second notice rules. It read "3.0" instead of "2.0", which was used in Appendix A, Illustration I, Alternative I, line 15, and in 40 CFR 264.143(f)(i)(A), which was the source of the financial test. The Board corrected this pursuant to JCAR staff comment.

The Board has also reworded the provisions of Section 807.666(g) concerning qualified opinions. The Agency must disallow the test if the operator's accountant gives an adverse opinion or a disclaimer of opinion. The effect of other qualifications depends on whether they relate to the numbers used in the test, and whether, in light of the qualifications, the operator has demonstrated that it meets the test.

This Opinion supports the Board's Final Order, Adopted Rule of this same day.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion was adopted on the 21st day of November, 1985 by a vote of 7-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board