ILLINOIS POLLUTION CONTROL BOARD
February 26, 1986

IN THE MATTER OF:	)	
	)	
DEFINITION OF LIQUID HAZARDOUS WASTE (Economic Impact of Temporary Rules and Adoption of Permanent Rules)	)	R83-28C

FINAL ORDER. ADOPTED RULE.

OPINION OF THE BOARD (by J. Marlin):

On November 18, 1983 the Board opened this Docket for the purpose of promulgating a definition of "liquid hazardous waste" in order to facilitate the implementation of Section 22.6 of the Environmental Protection Act (Act), which prohibits the landfilling of liquid hazardous waste after July 1, 1984. The Board solicited proposals from the public. On January 5, 1984, P.A. 83-1078 was signed into law. On February 9, 1984 the Board authorized hearings on three proposals, prepared by the Board staff, Citizens for a Better Environment (CBE) and the Illinois Environmental Protection Agency (Agency). Public hearings were held on April 13 and 23, 1984. CBE was represented at the hearings by Howard Learner and Timothy Wright of Business and Professional People for the Public Interest (BPI). CBE and the Agency entered a joint proposal as Exhibit 4. Waste Management of Illinois, Inc. (Waste Management) entered an alternative proposal as Exhibit 12.[1]

The Hearing Officer set a comment period to end May 23, 1984. However, the Board accepted late comments because of delays in the filing of the April 23 transcript. The Board received the following comments during and after the April hearings:

* Chem-Clear, Inc., May 9, 1984

* Granite City Steel, Division of National Steel Corporation; Interlake, Inc.; Keystone Steel and Wire Company; Northwestern Steel and Wire Company; Republic Steel Corporation and United States Steel Corporation; May 24, 1984

* Cecos International, May 30, 1984

* Citizens for a Better Environment, June 6, 1984

[1] The Board appreciates the assistance of Morton F. Dorothy in drafting the rules and conducting the hearings.

* Illinois Environmental Protection Agency, June 18, 1984

On June 29, 1984 the Board adopted 35 Ill. Adm. Code 709 and 729 as emergency rules in R83-28A, and proposed the same Parts as regular rules in R83-28B. The emergency rules were filed with the Secretary of State and became effective on July 5, 1984. The emergency and proposed rules appeared in 8 Ill. Reg. 11997, 12000, 12668 and 12678, July 13, 1984. Pursuant to the request of participants, an additional hearing was held prior to preparation of an economic impact study (R.376).

The Board held the third public hearing in Urbana on August 30, 1984. Because the transcripts are not numbered sequentially, references to the August 30 transcript will be prefaced with a "C". For example, (C-70) will mean page 70 in the August 30 transcript. The Board received testimony from CBE suggesting deletion of the labpack and related exclusions, addition of permeability and leachability criteria for determining whether a waste has been solidified, and restriction of the use of biodegradable absorbents. The Board also heard testimony in favor of the labpack exclusion and comment concerning confusion over the phase-in rules. Prior to and following the third public hearing the Board received the following public comment:

* Illinois Energy Resources Commission, August 24, 1984

* Chemical Waste Management, October 1, 1984

* Agency, October 1, 1984

* Granite City Steel, et al., September 28, 1984

* Hazardous Waste Treatment Council, November 5, 1984

The Board modified the proposal in response to the testimony and written public comment, and in response to comments from the staff of the Joint Committee on Administrative Rules. The full text of the temporary rules was contained in an Order adopted on December 20, 1984. A supporting Opinion was adopted on January 10, 1985. Due to a clerical error, the Opinion was distributed bearing the date "January 10, 1984". The temporary rules were filed and became effective on January 3, 1985. They were published at 9 Ill. Reg. 718 on January 18, 1985.

The record in R83-28A was incorporated into Docket R83-28B. On November 8, 1984 the Board opened Docket R83-28C for the purpose of addressing economic impact. The records in R83-28A and R83-28B were incorporated into R83-28C.

The Board intends to open a new docket to address miscellaneous issues which have arisen in this docket and R81-25, and to promulgate rules implementing Section 39(h) of the Act.

The Board received the economic impact study (EcIS) from the Department of Energy and Natural Resources (DENR) on September 24, 1985. On October 10, 1985, the Board directed the temporary rules to first notice as permanent rules without change. The proposal appeared on November 1, 1985 at 9 Ill. Reg. 16664 and 16739.

The Board conducted economic impact hearings in Chicago on November 1 and in Urbana on November 8, 1985. In that these are the fourth and fifth public hearings in this matter, references to pages in these transcripts will be prefaced with a "D" or "E", respectively.

The public comment period expired on December 16, 1985. The Board received a single public comment from Menasha Corporation. On December 20, 1985, the Board adopted an Opinion and Order, for second notice, proposing to readopt the temporary rules as permanent rules without change. JCAR considered the second notice at its February 10, 1986 meeting. JCAR determined that it would issue no objection. The Board therefore readopts the temporary rules as permanent rules without change. The rules will be filed with the Secretary of State and published in the Illinois Register.

STATUTORY AUTHORITY

Section 22.6 of the Act was added by H.B. 1054, which became P.A. 83-1078, effective January 5, 1984. It reads as follows:

a. Commencing July 1, 1984, no person shall cause, threaten or allow the disposal in any landfill of any liquid hazardous waste unless specific authorization is obtained from the Agency by the generator and the landfill owner and operator for the land disposal of that specific waste stream.

b. The Board shall have the authority to adopt regulations which prohibit or set limitations on the type, amount and form of liquid hazardous wastes that may be disposed of in landfills based on the availability of technically feasible and economically reasonable alternatives to land disposal.

c. The Agency may grant specific authorization for the land disposal of liquid hazardous wastes only after the generator has reasonably demonstrated that, considering current technological feasibility and economic reasonableness, the hazardous waste cannot be reasonably solidified, stabilized, or recycled for reuse, nor incinerated or chemically, physically or biologically treated so as to neutralize the hazardous waste and render it non-hazardous, and that land disposal is not prohibited or limited by Board regulations. In granting authorization under this Section, the Agency may impose

such conditions as may be necessary to accomplish the purposes of this Act and which are consistent with Board regulations. If the Agency refuses to grant authorization under this Section, the applicant may appeal as if the Agency refused to grant a permit pursuant to the provisions of subsection (a) of Section 40 of this Act.

d. For purposes of this Section, the term "landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment or an underground injection well.

Section 22.6 is related to two other provisions: Section 22(g) authorizes the Board to prohibit landfilling of hazardous waste in general; and, Section 39(h) requires specific authorization from the Agency for each hazardous wastestream after January 1, 1987. The Board has adopted rules to prohibit halogenated solvent wastes pursuant to Section 22(g)(R81-25, Opinion and Order of October 25, 1984). In addition, Section 22.4(b) of the Act provides that the Board is to follow its usual Title VII and Administrative Procedure Act (APA) procedures when it adopts regulations which are not inconsistent with and are at least as stringent as the federal Resource Conservation and Recovery Act and regulations (42 USC Section 6901 et seq. and 40 CFR 260 et seq.).

RELATIONSHIP TO OTHER LANDFILLING RESTRICTIONS

In addition to the halogenated solvent ban pursuant to Section 22(g) of the Act, there is a presently existing limitation on liquids adopted in Parts 724 and 725 pursuant to the "identical in substance" provisions of Section 22.4(a) of the Act (R81-22, 6 Ill. Reg. 4828, April 23, 1982; R82-18, 7 Ill. Reg. 2518, March 4, 1983; and, R82-19, 7 Ill. Reg. 14015, October 28, 1983). Section 724.414 applies to hazardous waste landfills with RCRA permits, while Section 725.414 applies to interim status landfills. These Sections allow the landfilling of bulk liquids only in landfills with liners and a leachate collection and removal system meeting the requirements of Section 724.401(a). Alternatively bulk liquids may be mixed with absorbent and placed in a landfill meeting the interim status standards of Part 725, or the final standards of Part 724. With three exceptions, discussed below in connection with Section 729.301, containerized liquids are restricted from all RCRA landfills unless "freestanding liquid" has been removed or mixed with absorbent (R.340). As is discussed below, this proposal does not address the 1984 amendments to the federal RCRA act.

The Agency cannot authorize the landfilling of liquid hazardous wastes pursuant to Section 22.6(c) if the landfilling is prohibited or limited by Board regulations. Thus, the Agency can authorize liquids to be landfilled only in conformance with

the RCRA requirements of Parts 724 and 725. Bans adopted pursuant to Section 22(g) of the Act also limit the Agency's discretion in authorizing wastestreams pursuant to Section 22.6(c).

RCRA REAUTHORIZATION AMENDMENTS

The 1984 RCRA reauthorization amendments changed the federal liquid ban. The landfilling of absorbed bulk liquids is now prohibited; and the landfilling of absorbed containerized liquids will be prohibited by 1987.

The federal rules do not contain any method for differentiating absorbed from solidified wastes. However, USEPA has issued a guidance document to the Regions (D-46; Exhibit 21). The guidance document includes the following statement at p. 14:

> EPA expects owners and operators using a chemical stabilization process to demonstrate that the chemical transformations described above occur. Laboratory data showing that an appropriate "recipe" has been developed and used, plus a demonstration that stabilization has occurred are necessary. Descriptions of the treatment apparatus and quality control methods should also be available and provided with permit applications. The end product of the stabilization process should be subjected to and pass the Paint Filter Liquids Test before it can be landfilled.

Rather than specify a standard, USEPA has given a general description of solidification. Each operator must show that his process meets the general description, and must propose a quality control plan to show that each batch has been solidified. The Illinois liquid ban focuses on a single criterion for solidification, load-bearing capacity, and specifies a numerical standard which any solidified waste must meet.

§22.4(a) of the Environmental Protection Act requires the Illinois hazardous waste program to be "identical in substance" with the federal. In addition, Illinois must maintain "equivalency" with the federal rules to get and keep RCRA final authorization. §22.4(b) allows the adoption of provisions which are "not inconsistent" with the federal program and which are "at least as stringent". The questions of stringency and consistency are made more difficult by the fact that the Board has already adopted the liquid ban as a more stringent, consistent provision, but must rejudge these criteria against new federal rules. These questions are also complicated by the limited scope of the present economic impact hearings.

As noted above, the Illinois liquid ban admits of a consistent interpretation: i.e., Illinois has specified one of several criteria for solidification, and set a certain number

which must be met in quality control plans. If stringency is defined in terms of whether there exists a waste which could be landfilled in Illinois but which could not be landfilled under the USEPA rules, the Illinois rule is probably less stringent. That is, there probably exists a waste which meets the load-bearing capacity test, but for which the operator could not demonstrate that a chemical reaction has occurred which will maintain the hazardous constituents in their least mobile or toxic forms. (D. 25, 30, 35, 39, 46, 51, 53, 59).

On the other hand, rather than focusing on extreme cases, stringency could be defined in terms of whether the Illinois liquids ban is more effective than the federal in keeping doubtful wastes out of landfills. One factor to be considered is that Illinois has a simple, numerical standard which may prove easier to enforce. However, at present, there is no information on which to compare overall effectiveness on the programs.

A second area for stringency comparison concerns the landfilling of absorbed liquids pursuant to the technically feasible and economically reasonable demonstration to the Agency. Prior to the 1984 reauthorization amendments, the Illinois rule was more stringent because the worst case involved landfilling of an absorbed liquid in accordance with federal requirements. However, landfilling of bulk liquids with absorbent is now banned at the federal level. The Agency has not yet issued an authorization pursuant to the demonstration, and does not foresee issuing any in the near future (D-50, 65).

The Agency and CBE recommended that the Board refile the temporary rules as permanent rules, and postpone consideration of the RCRA reauthorization amendments. (D-67).

Although the Board has invoked §22.4(b) in this rulemaking, its review is limited to the economic impact of the temporary rules as adopted in December, 1984. Modification because of subsequent developments might trigger the necessity to await another EcIS, which would result in expiration of the temporary rules without replacement, contrary to the mandate of §22.6 of the Act. For these reasons, the Board will not disturb its finding that the liquid hazardous waste rules are not inconsistent with and are at least as stringent as the federal RCRA rules. The Board will open a new docket to resolve any problems which may arise in the future regarding the above.

TESTIMONY

Witnesses at the hearings who testified on technical and economic issues included the following:

1. Larry Eastep, from the Agency, concerning the overall rationale of the ban and the Agency's procedures for implementation (R. 12).

2. Dale Helmers, from the Agency, concerning methodology of the paint filter test (R.71).

3. Michael Nechvatal, from the Agency, concerning the quantities of waste involved (R. 112).

4. Eugene Theios, from the Agency, concerning treatment and recycling capacity and implementation of the emergency rules (R.136, C-12, D-46).

5. William Webster, from the Hazardous Waste Treatment Council, concerning the definition of solidification (R.156)

6. Dr. Robert Ginsburg, from CBE, concerning potential problems associated with addition of absorbents, the definition of solidification, labpacks and other matters (R.210, C-58)

7. Jeffrey Diver and Edward Fochtman, from Waste Management, concerning the penetrometer test (R.271)

8. Peter Ashbrook, from the University of Illinois, concerning labpack waste (C-115)

9. Dr. William J. Sheppard, Sr., and Ms. Cindy McCandlish, from Battelle, the EcIS contractor (D- 12, E-5).

WHY PROHIBIT LIQUID HAZARDOUS WASTE?

Liquid hazardous wastes have been restricted by legislative action. The reasons are twofold: first, liquid hazardous wastes tend to migrate within a landfill, creating a potential for contamination of groundwater; and, second, they make daily operations more difficult, and create subsidence problems after closure (R.16).

ECONOMIC IMPACT STUDY

The Board received the EcIS from DENR on September 24, 1985. (Economic Impact of Proposed Regulation R83-28B: Ban on Land Disposal of Liquid Hazardous Waste). The study was prepared by a contractor, Battelle, Columbus Division, Columbus, Ohio.

At the outset the Board notes that the study did not attempt to differentiate the economic impact of the rules from the economic impact of the statutory provision of Section 22.6 of the Act. Section 27 of the Act requires a study of Board rules rather than a study of the impact of legislative actions. At the hearings, the contractor was asked to attempt to separate these effects (D- 32, E- 7). As will be detailed below, the economic impact of the rules apart from the statute is much less than the impact of the statute. Except where specifically noted, the discussion of economic impacts below is the impact of the statute rather than the rules.

WASTES AFFECTED

At the merit hearings, the Agency presented an estimate based on waste descriptions taken from supplemental permit applications. However, the liquid restriction also applies to on-site disposal and small quantity generators, which are not subject to the supplemental permit or manifest system.

A supplemental permit application describes waste in terms of whether it is solid, semi-solid, liquid, powder or gas (R.123). The Agency estimated the amounts of solid, semi-solid and liquid wastes which were subject to the ban (Ex.8).

In 1983 commercial hazardous waste disposal facilities accepted 1.6 million gallons of waste described as "liquid", which is assumed to fail the paint filter test (R.123). In 1983 these facilities accepted 4.8 and 14.5 million gallons of "semi-solid" and "solid" wastes, respectively (Ex.8).

The Agency conducted a sampling program to estimate what percentage of these wastes would fail the paint filter test. A relationship was established between the percent of samples failing and the percent solids reported in the application. Based on this, around 3.4 and 4.9 million gallons of "semi-solid" and "solid" wastes were expected to fail the paint filter test. Thus, a total of about 10 million gallons of waste disposed off-site were expected to fail (R.125).

The EcIS also used 1983 as a base year. It estimated quantities managed on-site as well as off-site. The study determined that 326 million gallons of liquid hazardous waste were generated in that year. The import/export balance is as follows (EcIS 26)

	Million Gallons
Amount generated	326
Exports	(20)
Imported	
For land disposal	4.5
For treatment or recycling	13
Amount managed in State	324

The EcIS assumed that exports would continue and that imports for treatment or recycling would continue, but that imports for land disposal would cease. This leaves around 319 million gallons to be managed in the State.

Most of this waste was treated on-site before the liquid ban; only 30 million gallons generated in-state, and the 4.5 million gallons imported, were landfilled. The costs center on the 30 million gallons formerly landfilled.

PERSONS AFFECTED

The study identified certain industry groups which are most impacted by the liquid hazardous waste bans. The groups most affected include (EcIS 42):

Waste Disposal
Fabricated Metal Products
Chemicals and Allied Products
Machinery (non-electric)
Primary Metal
Transportation equipment
Electrical equipment

TREATMENT AND RECYCLING CAPACITY

Much of the waste affected by the ban consists of aqueous wastes and solvent wastes. During the merit hearings, the Agency indicated there is an existing capacity of 84 million gallons per year for aqueous waste treatment facilities and 7 million gallons per year for solvent wastes. Of this capacity, the unused portion amounts to some 57 million gallons per year for aqueous waste and 5 million gallons for solvent wastes (R.140). The solvent reclaimers do not receive a very high percentage of the waste which would be going to landfills (R.143). Other options for avoiding the landfilling of liquids include process changes, substitution of materials, incineration and solidification (R.143). The Agency estimated that 90% of affected waste could be handled by some sort of treatment or recovery (R. 146). This appeared to leave about 1 million gallons per year of off-site waste which may require authorization pursuant to the Section 22.6(c) showing. However, by November, 1985 the Agency had not issued any such authorizations. (D-50).

The EcIS identified six general treatment methods applicable to liquid hazardous waste (EcIS 22):

Incineration
Oxidation of cyanide (usually followed by other treatment)
Heavy metal precipitation
Acid/Base neutralization
Other chemical treatment
Recycling and/or incineration

The costs of the treatment alternatives range from a high cost of $3.02/gallon down to a savings of $0.80/gallon for recovered solvents. (EcIS 37). This is compared to a cost of $0.17 to $0.93/gallon for landfilling prior to the ban (EcIS 37).

Many treatment options produce a residual sludge. The liquids ban requires that this sludge pass the paint filter test before landfilling. The additional dewatering adds around $0.02/gallon to treatment costs. (EcIS 35).

SUMMARY OF COSTS AND BENEFITS

The direct increased costs to the public are estimated to be $6.6 million per year (EcIS 41, 61). Less than $1 million of this is attributed to the rules in the absence of the statute, based on the assumption that the statute would have been construed to have a more narrow definition of "liquid" (E-9). The EcIS attributed no costs to the statute or rules after two years, assuming a stricter federal ban would come into place anyway (D- 43).

The State would lose around $600,000 in annual revenue due to decreased collection of the hazardous waste fees (EcIS 44). This would be lost anyway after two years because of federal rules.

These costs were judged to be small as a fraction of sales of the industries affected (D- 19).

Benefits include a decreased likelihood of groundwater contamination. The study estimated that 1.2 million people are served by groundwater supplies in counties near landfills (EcIS 51, 60). The probability of contamination was too uncertain to allow assignment of a dollar value.

DISCUSSION OF RULES

The following is a detailed discussion of the temporary rules proposed for adoption as permanent rules. Part 729, containing the substance of the liquid restriction, will be discussed before the wastestream authorization requirements of Part 709.

PART 729: PROHIBITED HAZARDOUS WASTES

Section 729.100 Purpose, Scope and Applicability

This Section was adopted as a regular rule in R81-25 (Order of October 25, 1984). Paragraph (b) delineates the scope of the Part as adopted in R81-25 pursuant to Section 22(g) of the Act. This includes a broader definition of "landfill" than utilized in Subpart C. The Board is amending the Section to add a cross reference to the wastestream authorization requirement of Part 709.

Section 729.205 Renumbered

This Section was adopted in R81-25. It provided that the Agency is to deny a wastestream authorization for any waste prohibited by the halogenated solvent ban, and declared supplemental permits for halogenated solvents to be void. The related Sections in Part 709 have been amended in this Docket to state this result (Sections 709.104 and 709.401).

Section 729.301 "Labwaste"

The RCRA rules prohibit containers holding free liquids with three exceptions (Sections 724.414(b) and 725.414(b)). Ampules are very small containers, holding only a few grams of waste. Labpacks are containerized liquid wastes in "overpacked drums": drums to which sufficient absorbent material has been added to completely absorb all of the liquid contents of the inside containers (Sections 724.416 and 725.416). The third exception is containers designed to hold free liquids for use other than storage, such as batteries or capacitors (Sections 724.414(b)(3) and 725.414(b)(3)).

Waste Management asked the Board to consider the rationale of the federal RCRA regulations on which the exclusions were based: 40 CFR 264.314, 264.316, 265.314 and 265.316. Section 22.4(a) of the Act required the Board to adopt these provisions as State rules, which it did in the Sections quoted above (R81-22, R82-18 and R82-19). The Board was required to accept the rationale of the federal rules in adopting regulations pursuant to Section 22.4(a). The Board takes official notice of USEPA's supporting materials, particularly 45 Fed. Reg. 33215 (May 19, 1980) and 46 Fed. Reg. 56592-56596 (November 17, 1981). The Board notes, however, that the rationale of USEPA in adopting these rules in no way controls the Board's action in implementing Sections 5(b), 22(b), 22.4(b) and 22.6(b).

Ampules and containers such as batteries were excluded from the federal RCRA regulations when they were originally adopted (45 Fed. Reg. 33066, 33250, May 19, 1980). USEPA stated that:

> These types of containers are not likely to contribute substantial volumes of liquid to most landfills, and the difficulty of opening and emptying them appears to outweigh the small benefit gained. (46 Fed. Reg. 33215, May 19, 1980)

Labpacks were excluded by a later amendment (46 Fed. Reg. 56592, November 17, 1981). USEPA stated that disposal of hazardous wastes in labpacks was a common practice for many small volume generators (not necessarily small quantity generators). These include government, commercial and school laboratories. Disposal in labpacks is preferable to dumping these wastes into sewers. Even schools which are small quantity generators under the federal RCRA rules preferred to dispose of their wastes in labpacks in permitted hazardous waste landfills (46 Fed. Reg. 56592).

Laboratories generate a large number of wastes in small quantities often thousands of different wastes per month in quantities less than one gallon. Commercial treatment, recycling or incineration typically accept only reasonably sized lots of well-characterized wastes. The cost to characterize lab wastes is often prohibitive (46 Fed. Reg. 56593).

USEPA believes that disposal of labpacks in landfills is an environmentally sound practice. The requirement of sufficient absorbent to completely absorb all liquids will prevent labpacks from contributing significant volumes of liquid to landfill leachate (46 Fed. Reg. 56593).

The Board defined a category of waste produced by laboratories engaged in teaching, testing or research. This type of waste, "labwaste", may be disposed in labpack containers pursuant to Section 729.312.

Labwaste typically consists of small quantities of many different wastes produced by many different activities (C-118, 123, 125, 136, 138). The University of Illinois, for example, has many buildings which have a laboratory or a room where hazardous chemicals are used or stored (C-125). In 1983 it generated 2100 chemicals and mixtures, including around two-thirds of the U and P lists (Part 721)(C-123).

Although there are a large number of wastes, most are produced in quantities of less than 100 g (C-123). In 1983 the University of Illinois generated about 100 55-gallon drums of labpacks, each of which contained a maximum of 15 gallons of liquid (C-122, 136). Labpacks are thought to comprise less than one percent of all hazardous waste (C-117).

Labwaste does not include wastes produced in excess of 100 kg per month from one definable activity. Such a large wastestream would be subject to the authorization requirement. The generator would have to make the technical and economic showing to the Agency to dispose of the wastestream in labpacks.

Incineration or recycling of labwaste is difficult because of the variety and small quantities of waste involved. A waste must be identified before it can be safely incinerated or recycled. The cost of sampling becomes prohibitive when there are a large number of different wastes in small quantities (C-117, 130).

The University of Illinois is one of the largest generators of labwaste in the nation (C-129). It pays about $175 per drum for labwaste disposal (C-132). It recycles, incinerates and treats as much waste as possible (C-128). Because of its size these alternatives are cheaper for it than they would be for smaller schools (C-129). Smaller schools, including high schools, would face greater unit costs because of small quantities (C-129, 131). Subjecting their waste to the regulatory program requiring detailed analysis of many containers of such small amounts of waste would be prohibitively expensive. This would probably result in an increase in disposal by less environmentally sound methods than labpacks, including disposal with municipal waste and dumping into sewers (C-135).

Bringing labwaste into the regulatory program would vastly

increase the size of the regulated community, yet could only restrict less than one percent of the waste being generated. This would increase the cost to the regulated public, and absorb a disproportionate amount of the Agency's limited enforcement resources, without producing as much environmental benefit as regulating non-lab waste.

Including labwaste in the liquid waste restriction would force generators to make the technical and economic demonstration to the Agency. For the reasons noted above, they would almost always be successful in this. However, they would have to hire attorneys and consultants to make the individual demonstrations to the Agency. This appears to be an unreasonable burden to place on the laboratories in the State, especially the high schools.

The wastestream authorization program contemplates that each process or activity producing a waste should have a separate authorization (Section 709.102). The system would choke on paper if this were applied to labwaste. Moreover, in the absence of detailed review of the subsidiary wastestreams, the Agency would have difficulty in applying the wastestream authorization requirement so as to encourage recycling or treatment.

"Ampules" are also excluded from the RCRA liquid restrictions. Ampules which are labwaste may be disposed in labpacks.

The other RCRA exception is containers for use other than storage, such as batteries and capacitors. No one came forward with additional facts concerning these wastes at the third hearing. The Board was reluctant to continue the exclusion on the basis of the noticed federal materials, and dropped this exclusion. Such containers therefore may be landfilled only after an individual technical and economic showing to the Agency.

There are three statutory bases for adoption of the categorization of labwaste, and non-periodic waste, which appears below. First, Section 5(b) of the Act provides that the Board "shall determine, define and implement" environmental control standards. Second, under Section 22(b), the Board is to adopt standards for the "handling, storing, processing, transporting and disposal of hazardous waste." Thirdly, under Section 22.6(b) the Board is to adopt regulations which "prohibit or set limitations on the type, amount and form of liquid hazardous wastes that may be disposed of in landfills based on the availability of technically feasible and economically reasonable alternatives to land disposal."

Section 729.301 "Landfill"

This definition is taken from Section 22.6(d) of the Act. The definition in the Act defines landfill as "a disposal facility or part of a facility..." This seems to allow the

possibility that two trenches at a site could each be a landfill. The Board changed the term "disposal facility" to "disposal unit" to agree with the terminology in Parts 720-725. The primary effect of this interpretation is to allow non-hazardous liquids into non-hazardous trenches at facilities with a hazardous waste trench (Section 729.311).

The definition in Section 22.6(d) of the Act, and that adopted in Section 729.301, differ from Part 720 in the exclusion of surface impoundments intended for waste disposal and land treatment facilities. The liquid hazardous waste prohibitions will apply to true landfills and waste piles intended for waste disposal (R.275, 352).

Section 729.301 "Liquid Hazardous Waste"

A "liquid hazardous waste" is a "hazardous waste" which yields fluid when subjected to the paint filter test (Section 729.320).

Section 729.301 "Non-periodic Waste"

A "non-periodic waste" is a "liquid hazardous waste" in a quantity of less than 100 kg which is not expected to be generated again by the generator who produced the waste. A generator will make this showing to the Agency based on his reasonable expectations. A non-periodic waste in a labpack is not subject to the liquid ban (Section 729.312).

The definition contemplates a single mass of waste: if the waste is produced at a rate per time it is clearly a periodic waste. Such a waste would be subject to the wastestream authorization requirement and the liquid restriction.

Labpacks are commonly utilized not only for disposal of labwaste, but also by small quantity generators (C-117). The Board intends to allow labpack disposal only for small quantities of unique waste. Liquid hazardous waste produced periodically even by a small quantity generator is subject to the liquid restriction, and must be kept out of landfills unless the technical and economic demonstration is made to the Agency.

Section 729.301 "Original Generator"

The original generator is a person who generates hazardous waste through a production process, as opposed to a treatment process. Subsequent handlers of the hazardous waste may also be "generators", but not "original generators".

Section 729.301 "Residual"

A "residual" is a material which remains after treatment of hazardous waste. "Residuals" may be landfilled if they have been treated or solidified as judged under Section 729.310(b) (R.277).

Section 729.301 "Treater"

A "treater" is a person who engages in treatment of hazardous waste. Either the "treater" or the "original generator" must obtain a wastestream authorization.

Section 729.301 "Treatment"

"Treatment" is as defined in Part 720 (R.276, 299). A person who treats hazardous waste is required to have a RCRA permit under Section 21(f) of the Act.

Addition of absorbents to waste at the time the waste is first placed in a container is exempted from the RCRA treatment permit requirement and Part 724 standards (Sections 703.123(h) and 724.101(g)(10). This definition specifically includes addition of absorbents for purpose of application of this Part (R.276, 291, 354). The result of addition of absorbents is a "residual" which must meet Section 729.310(b)(3), or Section 709.401(a), before it can be landfilled.

CBE requested that "sorbents" be used in the definition to include adsorbents as well as absorbents. Addition of adsorbent clearly falls within the definition of "treatment" in Part 720; but, there is no exclusion from the treatment permit requirement for addition of adsorbents. There is therefore no possibility of confusion, and no need to change "absorbents" to the less familiar term "sorbents".

Section 729.302 Waste Analysis Plan

The landfill operator must develop a waste analysis plan. This should describe the frequency and methods of sampling and analysis which the operator will follow to insure that prohibited wastes are not placed in the landfill. The operator will initially be required to submit a copy of the plan to the Agency and to follow the plan (R.278, 317, 359).

In the July 19, 1984 Opinion the Board solicited comment as to whether and how these plans should be incorporated into RCRA permits, interim status waste analysis plans and Part 807 permits. At the final hearing Waste Management indicated that it is testing every load to determine compliance with the liquid bans. On the other hand, CBE indicated that it did not envision testing of every truckload (C-82).

It appears that there needs to be a better definition of what constitutes an approvable waste analysis plan before a rule is adopted incorporating such plans into permits. The Board solicits comment in the new docket on the following outline of such a rule:

1. The rule should differentiate the testing to be done to obtain an initial authorization from the testing to

determine that a wastestream continues to conform to the authorization (C-82).

2. The rule should set a standard in the form of a percentage of non-conforming waste which is acceptable so that random sampling plans can be designed to detect non-conformity in excess of the standard. The standard should be based on the following considerations:

   A. The quantity of liquid below which no adverse impact on landfill operations or liner performance is expected.

   B. The cost of sampling versus benefits derived from eliminating any greater quantity of liquid excluded.

3. The rule should require rejection of non-conforming quantities actually detected through random sampling, and require increased sampling following detection of non-conforming quantities in excess of acceptable quantities.

4. The sampling plan should be systematic, but with enough random variability to assure that the samples are representative of the total quantity.

5. The person who is loading and transporting the waste must not be able to frustrate the sampling plan.

Section 729.310 Liquid Hazardous Waste Prohibitions

Paragraph (a) prohibits landfilling of liquid hazardous wastes which fail the paint filter test; paragraph (b) prohibits landfilling of certain treatment residuals.

Paragraph (a) prohibits the landfilling of liquid hazardous waste without a demonstration pursuant to Section 22.6(c) of the Act that, considering current technological feasibility and economic reasonableness, the waste cannot be reasonably solidified, stabilized, recycled, incinerated or treated (R.277, 348).

The prohibition of paragraph (b) involves two acts: first, the treatment of a liquid hazardous waste; and, second, causing, threatening or allowing a residual from such treatment to be landfilled. Both of these must be shown to establish a violation (R.279, 348). A disposer would not be in violation of paragraph (b) unless he were involved in the treatment of the waste.

Paragraphs (b)(1), (b)(2) and (b)(3) contain standards which residuals must meet to be landfilled: that the residual is non-hazardous; that liquids have been extracted; or, that the residual has been solidified.

The first standard applies when materials are added to the waste. The residual may be landfilled if it is no longer a hazardous waste (R.27, 226, 229, 234, 258, 280, 305). An example would be the addition of alkali to neutralize an acidic waste. Note, however, that the non-hazardous liquid residual could not be placed in a trench permitted to receive hazardous waste (Section 729.311).

The second standard applies when the liquid is extracted, evaporated or otherwise removed from the waste without the addition of material, such as absorbents. The residue can be landfilled if it passes the paint filter test (R.32, 48, 184, 225, 280). An example would be removal of liquids from a sludge by centrifugation or filtration. The sludge could be landfilled if it passed the paint filter test.

The third standard, like the first, applies when material is added to the waste. If the residue is still hazardous, it can be landfilled if it meets the paint filter test and possesses a load-bearing capacity of at least two tons per square foot (R.282).

For purposes of this discussion, a waste which meets the paint filter and load-bearing capacity tests is said to be "solidified", as opposed to "absorbed". These terms are not used in the rule. Solidified wastes may be landfilled, as non-liquids, pursuant to a wastestream authorization, while absorbed wastes may be landfilled only pursuant to the technical feasibility and economic reasonableness showing of Section 22.6(c) of the Act and Section 709.401(a).

Section 22.6(a) of the Act prohibits the landfill disposal of liquid hazardous wastes. Section 22.6(c) allows them to be landfilled on a showing, inter alia, that they cannot be "solidified". The paragraph (b)(3) test for residuals is the obverse: a residual can be landfilled if it has been solidified.

Absorption of a liquid is not the same as solidification. Absorption is a temporary state which, when reversed, would indirectly place free liquid into the landfill in violation of Section 22.6 of the Act. On the other hand, solidification is a process which involves chemical reaction between the waste constituents and the fixing material, and/or entrapment of constituents in a permanent matrix (R. 159, 167, 174, 216). A major issue in this rulemaking is how to tell the difference between absorption and solidification.

Examples of common absorbents include municipal refuse, sawdust, shredded paper and clay materials (R.216, 242). On the other hand, solidification processes are chemical reactions comparable to the setting of portland cement (R.160, 216). However, it is not possible to differentiate absorbents from solidifying agents by listing them because what is an absorbent when used with one waste could be an ingredient in a

solidification or other treatment operation. For example, lime is commonly used to neutralize acidic wastes with no intent to solidify the waste. It could also be used in a cement-like reaction to solidify a waste, yet the solidification reaction could fail because of the presence of interfering waste constituents (R.244). What is needed is a standard to evaluate the residual without reference to the materials which go into the process (R.167).

Many of the commonly used absorbents are expected to degrade faster than the hazardous constituents in the waste. This would result in release of the liquid (R.159, 174, 216). Section 729.313 prohibits the use of absorbents which are expected to degrade more quickly than the waste.

One difference between absorbed and solidified waste is the load-bearing capacity of the residual. A solidified waste should have load-bearing strength. If the residual loses volume as a result of compression, the result could be that liquid would be squeezed out (R.217, 238). Furthermore, the load-bearing capacity is an indication that a chemical reaction has taken place in the solidification process (R.297). A residual from a solidification process should show a load-bearing capacity in excess of 25 pounds per square inch or approximately two tons per square foot (R.162, 170).

The load-bearing capacity of the waste is also important to landfill operations and maintenance of cover. Operations are simplified if wastes can withstand the pressures of equipment moving over them when the next lift is filled. Waste Management testified that equipment typically exerts pressures of less than one ton per square foot or 14 pounds per square inch (R.282, 293, 296, 328). After the landfill is closed, wastes support the cover; excessive shifting causes subsidence, resulting in entry of water through the cover and generation of leachate (R.350).

The ideal test of load-bearing capacity is a compression test: a sample of the residual is molded into a block which is crushed in a press, with the pressure recorded directly. This is the way concrete is tested (R.187).

A simpler test is a soil penetrometer, which consists of a steel shaft mounted on a spring with a slip ring to record the maximum compression of the spring. The shaft is pushed into soil a certain depth, and the pressure on the shaft read from the slip ring.

The soil penetrometer does not actually measure the load-bearing strength of the material. However, it is related to load-bearing capacity (R.294, 297).

Two other tests for solidification are leachability and permeability. These are related to the amount of contaminants

which would be yielded if water percolated through the waste (R.162).

Leachability is measured by the EP toxicity test specified in 40 CFR 261 and 35 Ill. Adm. Code 721.124 or by ASTM D-3987 (R.163, 187). These measure the concentrations of contaminants in water which result when a sample of the waste is shaken with water. Recommended ranges are one to 100 times drinking water standards (R.163, 191).

Permeability is measured by the Corps of Engineers falling head test (R.163, 170). It measures the rate at which liquid passes through a unit area of a material. The recommended standard is $5x10^{-6}$ cm/sec (R.164). However, solidified materials exhibit permeabilities which go as high as $10x10^{-6}$ cm/sec (R.199).

The maximum acceptable leachability and permeability are related. If a material is not very permeable, one could accept a higher leachability, and vice-versa (R.164, 189, 198; C-63, 113).

Solidified wastes require three to four weeks to set before these properties are measured (R.193, 299). Testing plans should allow for this time.

The Board has decided to utilize the penetrometer test at two tons per square foot as a criterion for solidification. As noted, it bears a relation to the compression test which is more reliable. The residual from common absorbents fails the penetrometer test at one ton per square foot (R.298). The test appears to be simple and inexpensive, with readily available equipment.

At the third hearing CBE proposed to add leachability and permeability tests to the criteria of Section 729.310(b)(3). CBE proposed as a leachability test the EP toxicity test of Section 721.124, and a maximum permeability of 5×10^{-6} cm per second as measured by the Corps of Engineers falling head test. The Board declines to adopt these tests at this time for the reasons set out below.

The EP toxicity test is a defining criterion for hazardous waste, and, as such, would be more appropriately addressed in rulemaking implementing Section 39(h) of the Act. Under the CBE proposal, if EP toxicity were the only hazardous characteristic and the residual passed the EP toxicity test, but failed the penetrometer or permeability test, the residual could not be landfilled even though it was non-hazardous (C-76, 84). The Board believes, as is reflected in Section 729.310(b)(1), that Section 22.6 is intended to address hazardous waste.

The permeability test proposed is designed for use on compacted soil-like materials. A residual with small units with a low permeability per unit, such as marbles, would give a high

permeability under the test protocol since the units could not be compacted. In such a case it would be the permeability of the units, rather than the bulk material, which would be related to the landfilling hazard (C-64, 90, 94, 96, 98, 101, 110).

The CBE proposal does not recognize the interrelationship between permeability and leachability (C-63). Yet, as noted above, the Board has received expert testimony from William Webster suggesting that a rule should allow some trade-off between these variables.

To summarize, the proposal contains two tests: the paint filter test and load-bearing capacity test. The paint filter test is used as an initial screen to determine whether a waste from an original generator is a liquid hazardous waste (R.172, 180, 183, 347). If treatment is performed, other than removal of liquid, the hazardous residual can be landfilled if it passes the paint filter test and the load-bearing capacity test. It should be noted that the latter test does not apply to wastes from original generators who perform no treatment. If such waste passes the paint filter test, it can be landfilled even though it might fail the penetrometer test. However, one cannot add absorbents to get the waste to pass the paint filter test without becoming subject to the load test (R.183).

Following adoption of the temporary rules, the Board solicited comment as to whether any wastes were found which met the penetrometer test without having been "solidified" as the term is intuitively understood.

An example was offered concerning metal hydroxide sludges. If these are dewatered to about 60% water, they will pass the penetrometer test (D-36, 39). However, the sludge may "weep" liquids during transportation. (D-35). The liquid portion would fail the penetrometer test. However, the penetrometer test does not apply to the waste in the example, because no material was added to remove the liquid (D- 37). The liquid which weeps in transportation can be decanted, and the material landfilled if it passes the paint filter test.

The Agency reports that several wastestreams have passed the penetrometer test after addition of sawdust or fly ash alone, with compaction (D- 51). The limitation on use of biodegradable absorbents added with the temporary rules now prevents the use of sawdust (D- 54). The penetrometer test is effective in forcing companies to use fly ash in combination with lime and other solidifying substances which in fact provide fixation to a more stable solid (D- 52).

The criteria of Section 729.310(b) all involve treatment of hazardous waste: any person conducting these operations must have a RCRA permit or interim status. The Agency will monitor the success of treatment through the RCRA permit program as well as the wastestream authorization. On the other hand, the

addition of absorbents by the original generator, although it is a "treatment", is specifically excluded from the RCRA permit requirement (Sections 703.123(h) and 724.101(g)(10)). The Agency will monitor the process only through the wastestream authorization process. It is possible that a generator could attempt to evade the liquid restriction by adding a large amount of absorbent and claiming to have solidified the waste. There are two barriers to this. First, it is physically difficult to produce a residual in this manner which meets the penetrometer test. Second, by claiming to have solidified the waste, the generator would subject himself to the RCRA treatment permit requirement.

Section 729.311 Prohibition of Liquids in Hazardous Waste Landfills

The RCRA rules appear to allow the placement of non-hazardous liquid wastes in hazardous waste trenches. These liquids would be expected to come into contact with hazardous wastes in the trench and become liquid hazardous wastes after disposal. This would have the same effect as disposal of the liquid hazardous waste. The Board has therefore prohibited landfilling of any liquids in hazardous waste landfills. Note that the definition of "landfill" in Section 729.301 allows for the possibility of hazardous and non-hazardous landfills, or trenches, on the facility (R.42, 351).

This Section applies only the paint filter test to determine whether a non-hazardous liquid can be placed in a hazardous trench. Therefore, it is acceptable to use absorbents for non-hazardous liquids, since the penetrometer test never applies. This could result in release of liquids after placement in hazardous waste trenches (D- 53). However, the Board declines to modify this provision pursuant to the economic impact hearings. The Board will consider the need to modify this provision in a subsequent rulemaking.

Landfilling of non-hazardous liquids in hazardous waste landfills cannot be authorized pursuant to the technical and economic showing of Section 22.6(c) of the Act and Section 709.401(a). At first sight this seems to regulate non-hazardous liquids more strictly than hazardous liquids. However, there is no shortage of landfills permitted to receive non-hazardous wastes. It will always be technically feasible and economically reasonable to put these non-hazardous liquids in a non-hazardous waste landfill.

Section 729.312 Labpacks

"Labwaste" and "non-periodic waste" can be landfilled in labpack drums without the technical and economic showing. The requirements of a labpack have been reproduced from Section 724.416. In summary, a labpack is a drum containing smaller non-leaking containers of waste and an excess quantity of absorbent which completely fills the drum. The inside containers and

absorbent must not react with the waste. Reactive wastes, other than sulfide and cyanide wastes, must be treated or rendered non-reactive before being placed in labpacks.

The presence of excess absorbents, and the requirement that the drum be completely filled, make this form of disposal environmentally acceptable for these wastes which are only a tiny fraction of all hazardous waste. As noted above, it is usually not technically feasible or economically reasonable to treat, incinerate or recycle these wastes. The cost of the individual demonstration would tend to encourage disposal of these wastes in sewers and non-hazardous waste landfills with more adverse environmental impact than landfilling in labpacks.

Section 729.313 Biodegradable Absorbents

At the third hearing CBE proposed that the Board prohibit the use of biodegradable absorbents, which it defined to include municipal refuse, sawdust and shredded paper. Dr. Ginsburg testified that, under landfill conditions., these materials would degrade faster than the absorbed wastes, allowing the liquids to flow or be leached out of the waste (C-60, 70, 99). The Board has adopted this concept. However, instead of listing biodegradable materials, the Board has prohibited the use of any absorbent materials which will degrade faster than the waste being absorbed. This would allow the use of a biodegradable absorbent if the generator can demonstrate that the waste is more biodegradable. The Board recognizes that in some situations it may actually be desirable to have a biodegradable absorbent to provide a substrate for microbial action.

This Section is a limitation on the Agency's approval of wastestreams pursuant to the technical and economic showing. The limitation does not apply to ingredients going into a solidification process.

Section 729.320 Test for Liquids

The test for liquids is the paint filter test. A similar test has been proposed by USEPA for the landfilling bans in 40 CFR 264 and 265 (47 FR 8311, February 25, 1982) (R.76). The test is widely employed although it has apparently never been stated in rule form.

Paint filters are available in most paint stores. They are used, for example, to filter paints before spray painting. A paint filter is made of light card stock cut and glued to form a cone with a diameter of about six inches across the top. There are two holes near the bottom, or point, of the cone. These are roughly triangular, with the points and top side rounded. The holes are about 2 1/2 inches wide and 1 3/4 inches high. There is a hole at the point about 1/2 inch diameter. A cloth gauze mesh has been glued across the holes. The mesh is a nominal 400

microns, although it is very irregular (Ex.5). Irregularities are not thought to be important to the test (R.87, 116, 128).

The card stock has a hard surface which appears to be designed to resist wetting. This appears to be essential for a filter to work without being supported by a funnel. It is essential to the test that the filter not absorb much liquid from the waste sample (R.127).

The filter is to be mounted in a ring stand without a funnel, which could impede movement of fluids through the mesh. Fluids could also be trapped by capillary action between the filter and the funnel.

It is possible that certain wastes could attack the mesh in the filter. Such action in the time frame of the test would be expected only where free liquids are present (R.89, 133).

The test is based on a 100 ml representative sample which is brought to room temperature, thoroughly mixed and poured into the filter (R.76). The sample is covered with a watch glass of an appropriate size. The sample "fails" the test if one drop, or more, of fluid drops from the bottom of the filter within five minutes.

Wastes which are liquid at high temperatures, such as metal, slag, glass and distillation residues, are to be tested at room temperature. The fact that the waste may in fact have been a liquid at high temperature does not render it subject to the program.

Some wastes may include finely divided solid material which would move through the mesh. The waste "passes" the test if no fluid moves through (R.76).

Section 729.321 Load-bearing Capacity Test

This test is conducted with a soil penetrometer with a range of 0 to 4.5 tons per square foot. The shaft of the penetrometer is pushed into the sample to the line scribed in the point. The pressure is read on the low side of a slip ring on the shaft.

The shaft should be pushed into the sample at a constant rate over a period of two to three seconds. The instrument would give an erroneous reading if it were struck against the sample or pounded in with a hammer.

Granular samples should be compacted to densities typically found in landfills (100 lbs. per cubic foot) prior to testing (R.343).

PART 709: WASTESTREAM AUTHORIZATIONS

Section 709.102 "Wastestream"

Section 22.6(a) of the Act requires an authorization for a "specific waste stream". The definition of "wastestream" is critical to the scope of the wastestream authorization requirement: wastes which are not "wastestreams" do not require an authorization, but they must comply with the substantive prohibitions of Part 729.

A "wastestream" is:

1. A waste as defined in Part 721,

2. Which is routinely or periodically produced,

3. By a certain generator,

4. As a result of a certain activity, production process or treatment process.

A wastestream is a waste which is periodically produced. This could be a barrel per minute or a barrel per decade. However, it does not include a waste which is produced only one time (R.372). Examples of wastes which are not wastestreams would include single loads of wastes produced from construction, non-routine maintenance, or dismantling of equipment or buildings. However, there is no site-specificity: if a contractor moved from site to site rebuilding equipment, his waste could be a wastestream. Another example of a waste which might not be a wastestream would be a waste produced by an unusual accident or unusual spill.

A wastestream is produced by a certain generator. If two persons produce an identical waste, there are two wastestreams.

A wastestream results from a certain production or treatment process. Waste constituents may be mixed as a result of the process. However, wastes from multiple processes which are mixed simply for convenience constitute multiple wastestreams. The Agency may allow such combination if the combination does not limit the possibilities for treatment, recycling or disposal of the wastes. For example, one could not mix a non-incinerable wastestream with an incinerable wastestream, and then get authorization to landfill the waste pursuant to Section 22.6(c) because the mixture could not be incinerated.

A wastestream could also be defined in terms of the disposer of the waste. The result of this would be to require separate authorizations for each waste recipient from a generator. The definition has been written to allow this, but also to allow a list or classification of disposers. This is possible since the wastestream authorization is centered on the generator of the

waste, unlike the supplemental permits under Section 807.210, which are addenda to the disposer's permit. Increasing the generator's disposal options should tend to hold disposal costs down.

The Act has recently been amended to allow the Agency to issue multiple generator permits (Section 22.9 of the Act, P.A. 83-1443, effective September 16, 1984). The wastestream authorization, provisions and the amendments to the supplemental permit requirements are consistent with this new provision. The Agency will be allowed to issue a wastestream authorization to a generator allowing disposal at several landfills, and to issue supplemental permits to disposers to accept a category of waste from several generators. This scheme should require a lot less paperwork than a separate permit for each generator/disposer pair.

Section 709.103 Deemed-issued Wastestream Authorizations

Generators of treatment residuals are deemed to have a wastestream authorization if there is a supplemental wastestream permit for the wastestream and the generator submitted an application by September 7, 1984. The residual will also have to meet one of the standards of Section 729.310(b): it will have to be non-hazardous, or be the result of liquid removal or solidification. Wastestream authorizations are not deemed issued for residuals which result from addition of absorbents, or for direct landfilling of liquid hazardous wastes.

There was considerable confusion at the third hearing concerning the transition rules (C-12, 45). Part of this is resolved when one recognizes that the wastestream authorization is a new generator-centered permit, while the supplemental wastestream permit is an existing disposer-centered permit. The authorization was deemed issued for 60 days after the emergency rules if the wastestream was subject to an outstanding supplemental permit. If an application is filed in this time, the deemed-issued authorization continues until the Agency acts. The supplemental permits, on the other hand, were voided immediately if they authorized disposal of a restricted waste. The dates for receipt of applications for authorization have no impact on the supplemental permits.

Section 709.104 Supplemental Permits

Supplemental wastestream permits which have been issued for prohibited wastestreams are void immediately. The Agency is authorized to review outstanding permits which appear to authorize disposal of prohibited wastes. The Agency should give notice to the permittee and the opportunity to file a new application showing compliance with the new rules (R.20, 28, 44). The Agency may modify or deny the supplemental permits as a result of its review. The Agency's actions may be appealed to the Board pursuant to Part 105.

Supplemental permits which authorize disposal of restricted liquids are voided to prevent an argument that the previously-issued permit can be used as a defense by a disposer who accepts liquid hazardous waste. However, the validity of the permit might not be decided until an enforcement action reached the Board. Paragraph (c) requires the Agency to review existing permits to identify those which it believes permit disposal of prohibited waste. The Agency is to give each permittee the opportunity to demonstrate compliance before modifying or denying a new supplemental permit. A sentence has been added to make it clear that this includes the permits the Agency believes are void.

Paragraph (b) has been added to apply the same rule to wastes prohibited by the halogenated solvent ban (R81-25). This has been renumbered from Section 729.205.

Section 709.201 Liquid Hazardous Waste Authorization

Paragraph (a) states the requirement of a wastestream authorization for landfilling a wastestream which is still a liquid, or which is a liquid to which absorbents have been added. This requires the economic and technical showing in Section 22.6(c) of the Act and Section 709.401(a)(R.344).

Paragraph (b) states the requirement for residuals. This requires a showing that the residual is non-hazardous, or results from removal of liquids or a solidification process, as set forth in Sections 709.401(b) and 729.310(b).

Section 22.6(a) imposes a wastestream authorization requirement on generators who landfill liquid hazardous waste. The Board has construed this to include those who are successfully treating the liquid, as well as those who are landfilling the liquid directly or absorbed. However, the generator of a residual has the option of making the simpler showing that the treatment is successful, rather than the difficult technical and economic showing of Section 22.6(c). It could be argued that the Legislature intended only to require the authorization for the direct landfilling of liquids and absorbed liquids. However, the distinction between successful treatment, or solidification, and addition of absorbent is a subtle one which requires prior review by the Agency on a case-by-case basis, rather than after the fact review by the Board in an enforcement action.

In the older permit programs in air and water a permit is required when a person discharges or emits a contaminant, or engages in treatment to prevent air or water pollution. (For example, see Sections 9(a), 9(b), 12(a), 12(b) and 12(f) of the Act.) A person cannot avoid the permit requirement by successfully treating the emission or discharge so as to bring the emission or discharge into compliance with standards. Prior approval through the permit process is required to assure that

the treatment process will work. Reporting pursuant to the permit is required to assure that it continues to work. The Legislature obviously intended to establish a similar program of prior approval for treatment or solidification of liquid hazardous waste prior to landfilling.

It should be noted also that the Legislature has established a wastestream authorization requirement for all hazardous wastes after January 1, 1987 (Section 39(h) of the Act).

Section 709.301 Application

This Section contains minimal information which the generator must provide for the Agency to issue a wastestream authorization. The Agency may promulgate standard forms which will supersede this Section. The Board has modified the minimum application requirements in response to Agency comments (C-51).

Paragraph (f) requires a detailed analysis of a sample of the waste; paragraph (h) requires a plan for sampling by the generator or treater to assure that the wastestream continues to conform to the analysis in the application. Note that this is not the same as the waste analysis plan to be filed by the disposer pursuant to Section 729.302. However, this Section is not to be construed as prohibiting the transporter or disposer from implementing the generator's or treater's analysis plan.

Paragraph (k) requires the applicant to identify one or more facilities to which it proposes to send the waste. The Agency may identify specific facilities in the authorization, or issue it with a generic authorization.

Section 709.302 Signatures

The original generator or treater of the waste must actually sign the application. However, a permitted transporter or disposer of the waste can act as a broker, preparing the application for the generator. This will allow the wastestream authorization to function more like the supplemental permit system, in which the disposer had to complete the application. However, giving the generator the right to act alone may give generators more choice as to disposal sites, putting downward pressure on costs.

Section 709.401 Standard for Issuance

Paragraph (a) requires the Agency to issue a wastestream authorization for liquid hazardous wastes after the generator makes the technical and economic showing of Section 729.310(a) and 22.6(c) of the Act. The final sentence refers to prohibitions or limitations under Board regulations. This could include prohibitions in the RCRA rules adopted pursuant to Section 22.4 of the Act, or prohibitions adopted pursuant to Section 22(g) of the Act, as well as prohibitions or limitations

specifically directed at liquid hazardous waste pursuant to Section 22.6(b).

Paragraph (b) requires issuance of an authorization for a residual which meets one of the standards of Section 729.310(b): that the residual is not hazardous; that liquid has been removed; or, that it has been solidified. The Board has added a requirement that the residual not be prohibited or limited by other Board regulations. This is renumbered from Section 729.205, where it was adopted with the halogenated solvent ban.

Paragraph (c) allows the Agency to issue authorizations in other situations in which it determines that a wastestream is not subject to prohibition. For example, if there is doubt as to whether a waste is a liquid, a generator can request an authorization. If the Agency determines that the waste is not a liquid, it should issue an authorization to that effect, rather than denying the authorization on the grounds that the waste is not subject to the ban.

This mechanism could also be used to determine whether a wastestream is in fact hazardous This would provide a more direct determination of waste classification than the variance denial or dismissal mechanism employed in Safety-Kleen v. IEPA (PCB 80-12, 37 PCB 363, February 7, 1980).

Section 709.501 Duration

Wastestream authorization will last for one to three years. The upper limit of three years will assure expiration of early authorizations during 1987, after which review pursuant to Section 39(h) of the Act will be required.

Section 709.510 General Conditions

This Section implements the second sentence of Section 22.6(c) of the Act which contains general authority for conditions in authorizations.

Section 709.520 Authorized Methods of Disposal

The authorized methods of disposal are the heart of the wastestream authorization. The Agency may list specific landfills, or authorize landfilling by category of landfills. The Agency may also prohibit methods of treatment or disposal which it finds would result in violation of the Act or rules.

Paragraph (c) provides that the Agency may allow or require the addition of absorbent materials to liquid wastes authorized pursuant to the technical and economic showing of Section 709.401(a). This is to negate any inference that, by banning the use of absorbents for solidification the Board intends to prevent their use in a situation in which a liquid must be landfilled.

Parts 724 and 725 would often require the use of absorbents. Section 729.313 prohibits the use of absorbents which are more biodegradable than the absorbed waste.

Section 709.601 Modification

The generator may request modification of the authorization at any time by filing a new application. On its own initiative the Agency can modify an authorization prior to its expiration date only to make it consistent with newly adopted provisions of the Act or Board rules. The Agency must give notice to the generator that it is reviewing an authorization so that it will have the opportunity to file an application demonstrating compliance with the new provisions.

This Opinion supports the Board's Order of February 26, 1986, readopting the temporary rules as permanent rules following economic impact hearings.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion was adopted on the 26th day of February, 1986 by a vote of 7-0

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board