ILLINOIS POLLUTION CONTROL BOARD
October 1, 1984

WASTE MANAGEMENT, INC.,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB 84-45
	)	PCB 84-61
ILLINOIS ENVIRONMENTAL	)	PCB 84-68
PROTECTION AGENCY,	)	(Consolidated)
	)	
Respondent.	)	

DIXIE LEE LASWELL, D. KEVIN BLAIR, AND ANDREW H. PERELLIS (ROOKS, PITTS, AND POUST) APPEARED ON BEHALF OF PETITIONER; AND

ROBERT E. DAVEY AND FINIS E. WILLIAMS, ASSISTANT ATTORNEY'S GENERAL, APPEARED ON BEHALF OF RESPONDENT.

OPINION AND ORDER OF THE BOARD (by J. Anderson):

These consolidated appeals concern permits for which Waste Management, Inc. (WMI) applied to the Illinois Environmental Protection Agency (Agency) regarding operations at its Environmental Sanitary Landfill, Inc. (ESL) site located in Elmwood, Illinois.

PCB 84-45, filed April 9, 1984, is an appeal of various conditions in Permit No. 1984-16-SP issued March 2, 1984. This permit relates to installation and operation of a 46 well groundwater monitoring program. PCB 84-61, filed May 25, 1984, is an appeal of the Agency's April 20, 1984 denial of a permit to operate a new trench at the site, Trench 11, which was designed and constructed pursuant to a development permit for disposal of hazardous waste. PCB 84-68, filed June 4, 1984, is an appeal of the Agency's April 30, 1984 denial of 599 supplemental permits to dispose of various waste streams at the site, specifically in Trench 11. These cases were consolidated for hearing by the Board on June 29, 1984.

Discovery in the action was extensive, prior to initiation of nine days of hearing which concluded September 7, 1984. The record in this case, which was filed with the Board September 10, 1984, consists of slightly over 2,000 pages of transcript, ten 12" x 16" banker's boxes of documents, and briefs filed by WMI, the Agency, and several citizens. This case is being decided on the last day of the statutory decision period as extended by WMI. The Board must note that this deadline has been extended by WMI

reluctantly and only for short periods of time, as the site has had no disposal capacity for "some months before" January 19, 1984 (R. 1409), resulting in estimated revenue losses of $20,000/week (Pet. Emergency Motion for Sanctions, p. 1, July 9, 1984).

PENDING MOTIONS

Pending are several preliminary matters. The Agency's motion to file brief instanter is granted, as the filing delay has not seriously inconvenienced the Board. The Agency's motion to cite supplemental authority is granted, as the recent September 6, 1984 appellate court opinion involved is relevant and would have been discussed by the Board even had each party not kindly provided a copy to the Board.

On September 10, 1984, Waste Management moved the Board to vacate the August 31 verbal order of its Hearing Officer allowing intervenor's status to Gisela Topolski, Sherry Artis, Mabel Brockett, Norma T. Rourke, Robert Whitler, Robin Mc Williams, Lesley R. Marr, Sheryl L. Sadowski, and Judy Garthus "on a briefs only" basis (R. 1139-1152). These citizens made no objection to intervention on this basis, and the Agency, by the Attorney General, voiced lack of objection. The Hearing Officer's August 31 order was a reversal of a decision he made when hearings commenced August 27, denying intervention on the grounds that neither he nor the parties had previously received petitions to intervene, and that untimely intervention would prejudice the parties (R. 17-23).

WMI's objections to intervention are that: (1) intervention in a permit appeal is not authorized by Sections 39(a), 40 and 41 of the Illinois Environmental Protection Act (Ill. Rev. Stat. ch. 111½, §§1001 et seq.) (Act), or by 35 Ill. Adm. Code Part 105, (2) the intervenors would not be "adversely affected" because they do not share the same groundwater system as ESL and live on the other side of the river, (3) the petitions were filed untimely and improperly in contravention of the 48 hour pre-hearing notice requirements of 35 Ill. Adm. Code 103.142, and (4) denial of intervention would not harm the citizens, as their right to present oral and written testimony is clearly stated in Sections 40(a)(1) and 32 of the Act, and 35 Ill. Adm. Code 103.203.

On September 18, 1984 Norma Rourke filed a response in opposition, which response has been considered by the Board since WMI's motion was filed on the Board's filing cut-off deadline. Mrs. Rourke in essence argues that any procedural irregularities should be waived, that the intervenors are "adversely affected" because property values "are lowered badly . . . because of the proximity to a hazardous waste landfill," and that these citizens have been "watch-dogging" ESL since 1979.

The Board notes that some petitions to intervene were filed with the Board prior to hearing, specifically on August 15 (Rourke), 21 (Whitler), 23 (Mc Williams), 24 (Marr). The Board also notes that statements and in some cases exhibits were presented by citizens Topolski (Group Exh. 1 with 21 attachments), Rourke (Rourke Exh. 1-2), Whitler, the Ruettigers (Ruettiger Exh. 1), Garthus, Lembcke, Marr, and Kennedy, and that briefs were filed by Topolski, the Ruettigers, Rourke, and Marr. As a practical matter, under the hearing officer's "briefs only, no cross-examination" rule, at hearing the citizens gained no rights by being named "intervenors" which they did not otherwise have. The intervention question, then, involves whether the citizens by right may initiate or participate in the anticipated appeal of this case.

WMI's argument that the Board lacks authority to allow intervention in a permit appeal case is initially premised on the fact that Sections 39(a), 40 and 41 of the Act provide no right of intervention. WMI notes that the legislature has expressly provided intervention rights under Section 39.3(d) to citizens at the Agency hearing level concerning permit applications for initial development of new regional pollution control facilities, or modification of development permits to allow first time disposal of hazardous wastes. WMI contends that a similar right under Sections 39(a), 40 and 41 of the Act cannot "be lightly implied" (WMI motion, p.3).

As to the Board's regulations, WMI observes that no right of intervention is expressly provided in Part 105, although such rights are expressly provided in Section 103.142 in enforcement cases, Section 104.141 in variance cases, and Section 103.202(a) in artificial cooling lake demonstration cases. While Section 105.102(a)(6) provides that permit appeal proceedings are controlled by the rules in Part 103 (enforcement proceedings), WMI alleges that the Board is prohibited from construing this provision as applicable in this context, on the basis of the Supreme Court's ruling in Landfill, Inc. v. PCB, 74 Ill. 2d 541, 387 N.E. 2d 258 (1978). Landfill involved a challenge to a Board procedural rule authorizing third party appeals of granted permits. The court invalidated this rule, finding that the participation of private persons to effect the purposes of the Act is via the citizens' right to bring enforcement cases under Section 31(a) of the Act, rather than by participation as parties in Sections 39(a)-40 permit appeal proceedings. In the words of the court, the "statutorily established mechanism for persons not directly involved in the permit application process to protect their interests . . . [is] Section 31(a) [which] authorizes citizens's complaints against alleged violators of the Act . . ." 74 Ill. 2d at 559.

The Board historically has been liberal in its allowance of intervention rights, in fact having previously allowed

intervention in the case of a permit granted for development of a sanitary landfill, Hamman v. IEPA, PCB 80-153, 40/PCB/521, Order of February 19, 1981. The Board's November 19, 1981 Supplemental Opinion and Order in this action, 44 PCB 753, was the subject of an appeal brought by one of the intervenors, Mathers v. PCB, 107 Ill. 3d 729, 438 N.E. 2d 213 (1982). While the Third District upheld the intervention over Hamman's challenge on other grounds, the Board's authority to allow intervention was not at issue, the primary issue being whether the intervenors' were "adversely affected". Thus, the Mathers case provides no guidance here on the authority question.*

The Board observes that in this case, the citizens support the Agency action rather than opposing it as was their posture in Landfill. Nonetheless, the Board must find Landfill controlling in this area. The Board recognizes that the legislature has provided special third party appeal rights to those opposing issuance of "RCRA permits" [§§40(b) and 3(vv), c.f. §39.2(b) granting similar rights regarding local government's grant of site location suitability approval], but these are not such permits (see infra, p.13). In the light of the strong admonition of Landfill, and lack of explicit statutory authority or explicit Board regulation allowing intervention, the hearing officer's ruling is vacated. The Board has, however, fully considered the oral testimony, exhibits, and briefs submitted by the citizens as autorized and required by Sections 40(a)(1) and 32 of the Act, and 35 Ill. Adm. Code 103.203.

No further challenges were made in the briefs to any other hearing officer rulings, although objections to some were preserved on the hearing record. In its review of this voluminous transcript the Board finds no evidentiary rulings which mandate reversal. The Board wishes to express its appreciation for the unusually fine job done by its hearing officer in moving this proceeding along at a swift, but orderly and fair, pace.

The final preliminary matter is WMI's renewal in its brief (p. 23-24) of its oral motion at hearing for a ruling that the Agency has defaulted this action due to irregularities in and delay concerning the filing of the permit appeal record as prescribed in 35 Ill. Adm. Code 105.102(a)(4).

The Board notes that the permit record in this case is voluminous, consisting of five boxes of paper, bound only by

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*The Board would, however, find that the citizens' concerns for their property values and groundwater (see generally R.1789-1813, 1887-1914, and Ruettiger Brief p.3, Marr Brief, p.1) provide as sufficient a showing of adverse effect as the concerns for inadequacy of roads and contamination of wells in Mathers.

rubber bands and paperclips, and bearing "Bates" number stamps with several gaps in the numbering sequence. The permit record "dribbled in" over the course of the summer, pursuant to orders granting leave to supplement in order to insure that the Board was reviewing all relevant documents.

WMI's current motion additionally recites that the permit record did not contain additional information received by the Agency and which was or should have been relevant and material to its decision. The omissions included, among other things, several quarters of groundwater monitoring data showing no contamination which the Agency stipulated it had received, but had indeed failed to include in the permit record. (R. 885, 961). The Board cannot condone the sloppy manner in which the Agency has handled its files and paper in this case. However, in a case such as this involving hazardous waste and groundwater monitoring, as a matter of good government the Board will not find that this inefficiency has resulted in a default which would preclude review of this issue on the merits.

THE WITNESSES

Twenty witnesses were called by the parties, some of whom also testified as adverse witnessses. To aid in orderly presentation of the facts of this case, the witnesses are listed below with a brief description of their qualifications, and where not obvious, their relation to the permit issues.

Gary Dietrich — President, Clemont Associates - former director of the office of solid waste U.S. EPA who managed and supervised writing of federal RCRA regulations

David M. Hendron — Vice President and Senior Associate, Woodward - Clyde Consultants

Dr. Yaron M. Sternberg — Professor of Civil Engineering and University of Maryland, Director of International Rural Water Resources Development Laboratory - Consultant for Will County Environmental Network since 1982

Dr. Ian Christopher Nisbet — Vice President and principal science advisor, Clemont Associates - consultant for hearing purposes in area of risk assessment

Robert G. Kuykendall — Manager, Division of Land Pollution Control, IEPA

Lawrence W. Eastep	Manager, Permit Section, Division of Land Pollution Control, IEPA
Harry A. Chappel	Manager, Facilities Permitting Unit, Division of Land Pollution Control, IEPA
Monte Nienkerk	Groundwater Advisor, Division of Land Pollution Control, IEPA
Linda Kissinger	Permit Reviewer, Division of Land Pollution Control, IEPA
Mark A. Haney	Manager, Facilities Compliance Unit, Division of Land Pollution Control, IEPA
David Favero	Employee, Compliance Monitoring Section, Division of Land Pollution Control, IEPA
Stanley A. Walczynski	Professional engineer, Environmental Management Department, Chemical Waste Management
Dr. Don L. Warner	Dean of the School of Mines and Metallurgy and Professor of Geological Engineering at the University of Missouri - Rolla - consultant retained by Attorney General for hearing purposes
Sherry Otto	Geologist, Manager, Drill Regional Unit, Division of Land Pollution Control, IEPA
Kevin Pierard	former Environmental Protection Specialist and Groundwater Monitoring Coordinator, Division of Land Pollution Control, IEPA
John Hurley	Manager, Organic Laboratory, Division of Land Pollution Control, IEPA
Kathleen Kozack	Investigator, Environmental Control Division, Office of the Illinois Attorney General - prepared Resp. Exh. 40 for hearing
Dr. Daniel Hryhorczuk	Head of Clinical Toxicology Section Division of Occupational Medicine, Cook County Hospital, Assistant Professor of Environmental Health and Epidemiology, University of Illinois, School of Public Health - consultant retained by Attorney General for hearing purposes
Craig Liska	Regional Groundwater Monitoring Coordinator, Division of Land Pollution Control, IEPA

Walter Barber — Vice President for Environmental Management, Chemical Waste Management, and formerly with the U.S. EPA where his most recent position was as Director of the Office of Air Quality Planning and Standards.

PERMIT CHRONOLOGY*

The ESL site consists of about 260 acres located southwest of Laraway and Patterson Roads in Will County. This location is southeast of the DesPlaines River and about 2.5 miles southwest of the City of Joliet. The northwestern approximately 160 acres is the currently permitted operations area, containing a municipal refuse disposal area to the west and the hazardous waste and other operations to the east and north. The southeastern area is a proposed expansion area (Pet. Exh. 5, p. 1) but was denied local site location suitability approval by Will County pursuant to Section 39.2.

Since the site's acquisition by Waste Management in 1973 (Resp. Exh. 22, p. 01666), the site has received numerous permits for various disposal and other activities (summarized through 1981 in Resp. Exh. 21, p. 01223-01230). The following gleanings from the general permit history are thought to have particular relevance as general background. Permits for Trenches 1-10, in which hazardous waste has been disposed, called for the trenches to be lined with in situ clay soil; the trenches were constructed in this manner as required. The original site development permit had called for installation of a subsurface leachate collection system, some portion of which was installed before the system was made "obsolete" by issuance of the first permit in 1978 for "secure trench disposal" of liquid wastes in drums.

Apparently pursuant to the original permit and a 1978 supplemental permit, a "G series" of monitoring wells had been installed. (Resp. Exh. 21, p. 00938.) A "P series" of wells were installed in December 1979 and January 1980, using a then common practice of using solvent glue on the well joints (Res. Exh. 8).

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*Respondent's Exhibits 21-25 were introduced to, apparently, provide the Board with a chronological compilation of the more important documents in the permit record. The documents are not chronological, are often duplicative, are often illegible, and finally are not filed in any numerical sequence. To the extent that the Board's attempt to give an overview of the site's permit history is somewhat vague prior to the time of events immediately surrounding these permit appeals, this is attributable to the quality of the record and the shortness of the Board's review time.

The monitoring wells, as other facets of the site, were scrutinized for compliance with the USEPA's draft regulations to implement the Resource Conservation and Recovery Act of 1976 (42 U.S.C. §§6901-6987)) (RCRA Act) by Woodward-Clyde Consultants. The May, 1980 study found that several improvements were needed, including improvement in the locations of the wells in the monitoring system (Pet. Exh. 4, esp. p. 15), but that the site was acceptable for design and operation of a hazardous waste facility. Pursuant to this study and other work, in the meantime a permit was applied for and received in May, 1982 to modify and relocate some monitoring wells, as well as to modify testing to comply with RCRA requirements (Resp. Exh. 22, p. 01251-02303). No further supplemental permits with monitoring conditions appear to have been issued between the May, 1982 permit and the permit which is the subject of the appeal in PCB 84-45.

In December, 1982, samples from monitor well G105 showed the presence--barely over the detection limit--of trichloroethylene, at a level the Agency at the time stated could be caused by a sampling or laboratory error (Pet. Exh. 28). These reports raised Agency and citizen concerns, triggering a major focus on groundwater and site geology issues.

At some point in the spring of 1983, Mr. Kuykendall advised WMI that the Agency was placing an "administrative freeze" on further issuance of supplemental waste stream authorizations for the ESL site (R. 827).* Waste Management withdrew its applications as a result of this "freeze".

Several Agency concerns were outlined in Mr. Kuykendall's "letter of concerns" dated April 25, 1983 (Resp. Exh. 13). Specifically, the Agency asked Waste Management to perform certain geologic and hydrogeologic studies for the purpose of developing a new groundwater monitoring system (R. 828-33). Mr. Kuykendall also requested that Agency personnel be in attendance when these studies were performed. Finally, Mr. Kuykendall instructed WMI to apply for a permit once the new monitoring well system was designed (Resp. Exh. 13).

On April 27, 1983, Waste Management met with Mr. Kuykendall, Mr. Harry Chappel, Mr. Monte Nienkirk, Ms. Sherri Otto and other Agency employees (R. 1379). During the course of this meeting, the topic of discussion was the concerns expressed in Kuykendall's April 25, 1983 letter, and it was decided that further study would be done (R. 1379). At the time, the Agency acknowledged WMI's application for a development permit for Trench 11 (formerly Trenches 11 and 12). (Pet. Exh. 24.)

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*Nowhere in the Act is a freeze on decisionmaking authorized. It in fact is contrary to the mandate of Section 39, requiring a decision to issue or deny a permit within a time certain. In like fashion, a Board "freeze" on decisionmaking in these complex permit appeals would be contrary to Section 40.

On May 17, 1983 the Agency granted the development permit for Trench 11 (Pet. Exh. 24). The development permit specified that the trench must have at least 10 feet of clay in the bottom and sidewalls, with a minimum two feet of clay being removed and replaced in recompacted form (Pet. Exh. 24). The development permit also specified that the trench contain a synthetic liner of 60 mil high density polyethylene synthetic liner (HDPE). Because a synthetic liner was required, the development permit contained no specification for maximum permeability of the underlying clay. The trench was subsequently installed (R. 1391).

On July 11, 1983 a meeting was held between WMI, representatives of Woodward-Clyde and the EPA. The purpose of the meeting was to discuss the results of the geological studies requested by the Agency (R. 1380-81). The Agency asked that some additional work be performed. This follow-up was performed and the July, 1983 Woodward-Clyde report was prepared (Pet. Exh. 5).

On July 12, 1983, Mr. Walczynski forwarded WMI's application for an operating permit for Trench 11 to the Agency for processing (Pet. Exh. 12; R. 1383). Thereafter the Agency asked that the application be withdrawn, and this request was accomplished by letter dated July 27, 1983 (R. 1385-86; Pet. Exh. 36). In the meantime, ESL's disposal capacity was dwindling as the only active disposal unit, Trench 10, was filling up.*

On August 4, 1983, WMI attended a public meeting at the Holiday Inn in Joliet (R. 1389). By this time Dr. Sternberg had been retained by the Will County Environmental Network, a citizens group, at Waste Management's expense (R. 507). The Woodward-Clyde report was officially presented to the public (R. 1388), and comments were offered. At this meeting Mr. Kuykendall then stated that WMI must install a new system of monitoring wells before the Trench 11 permit would issue (R. 1390).

On August 17, the Agency sampled the P series wells. Laboratory results dated August 19 showed the presence of tetrachloroethylene in Well P1 and dichlorofluormethane in Well P 5.

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*Some activity not specifically related to state permits also commenced in this period. A groundwater assessment plan (Resp. Exh. 32) was submitted to the Agency in June, 1983, and amended September, 1983. (The submittal of the plan was to satisfy requirements of 35 Ill. Adm. Code Part 725, Subpart F interim status groundwater monitoring requirements.) As a result of a communication regarding cited deficiencies (Resp. Exh.30-31), a revised plan was submitted in November, 1983 (with an annual report being submitted on the 1983 calendar year's activities on April 9, 1984) (Resp. Exh. 32-33).

During the following months further study and permeability testing was performed by Woodward Clyde in cooperation with the Agency's Monte Nienkirk and Sherri Otto (R. 151, 173, 231, 1395).

On December 8, 1983 WMI again met with the Agency, this time to discuss the latest Woodward-Clyde study results. This study, referred to as the "Confirmation Study" (Pet. Exh. 6, 7) confirmed the previous results submitted to the Agency in July of 1983. Several questions were posed by the Agency and were answered by Woodward-Clyde and Dr. Sternberg (R. 400).

The proposed new monitoring well network was also presented (R. 231). The network proposed consisted of forty-six wells spaced approximately 185 feet apart (Resp. Exh. 2, Pet. Exh. 6, 7). The spacing and number of wells was based on a computer model designed to detect a "worst case" "pinpoint" leak fifty feet from the waste disposal boundary (R. 225, 426, 427, Pet. Exh. 6, 7).

On December 28, 1983 WMI submitted two permit applications (R. 1402, Pet. Exh. 37, 38). The first was the application for a groundwater monitoring permit required by Mr. Kuykendall in his letter of April 25, 1983 (R. 1404, Resp. Exh. 13). The second was an application for the operating permit for Trench 11. At this point in time the disposal activities at ESL had ceased, as Trench 10, the last disposal unit in operation, had been filled (R. 1409). On January 10, the Agency notified WMI that it considered the Trench 11 application incomplete (Pet. Exh. 39).

On February 15, 1984 the Agency forwarded a draft groundwater monitoring permit to WMI for comment (Pet. Exh. 27, Resp. Exh. 16). Various discussions were had of permit conditions.

On March 2, 1984 the Agency issued the groundwater monitoring permit (Pet. Exh. 1). WMI also re-applied for an operating permit for Trench 11. Installation of the 46 monitoring wells was completed and certified to the Agency April 2 (R. 952, Pet. Exh. 23).

On March 30, 1984 WMI wrote Mr. Lawrence Eastep questioning whether more information was needed before an operating permit would be issued (Pet. Exh. 22). At hearing Mr. Eastep acknowledged receipt of the letter, but he testified that he never made a specific response thereto (R. 956). The next Agency action was its denial of the Trench 11 operating permit on April 20, and wastestream authorizations "frozen" since spring 1983 on April 30 1984.

THE ACT AND THE REGULATORY FRAMEWORK

This appeal raises several substantial issues concerning the inter-relationship of the Illinois Environmental Protection Act,

the RCRA Act, the federal RCRA regulations, the Board's "identical in substance" RCRA regulations, and the Board's Solid Waste regulations which pre-existed RCRA. Exposition of the relevant existing statutory and regulatory framework will enhance presentation of the parties' arguments in this matter.

Title V of the Illinois Environmental Protection Act has, since its inception in 1970, established a regulatory and permitting system for the disposal of waste.*

Under the scheme of the Act, the Board is charged in Section 5(b) to "determine, define, and implement the environmental control standards applicable in the State . . . and to adopt rules and regulations . . . ". The Agency, for its part, has the duty to "administer . . . such permit . . . systems as may be established by [the] Act or by regulations", to "investigate violations of [the] Act or of regulations . . . , or of permits . . . ", and to "appear before the Board in any hearing . . . " [Id. §1004 (g, e, f)]. In colloquial terms, the Board is the rulemaker and judge, while the Agency is the permitting agency, policeman and, in conjunction with the Attorney General, the prosecutor.

Section 12(a) of the Act provides in general terms that

"No person shall:

> Cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board under this Act;"

Section 22 specifies the Board's authority to adopt regulations concerning waste disposal, in accordance with Title VII of the Act, while Section 21(d) of the Act requires a permit for waste disposal operations. In 1973, pursuant to the predecessor of what is now Section 21(d), the Board adopted rules governing waste disposal in a proceeding entitled In the Matter of Chapter 7: Solid Waste Rules and Regulations, 8 PCB 659 (July 31, 1973). These regulations, codified as 35 Ill. Adm. Code Part 807, have remained virtually unchanged since their adoption.

Section 39(a) of the Act charges the Agency that:

> "When the Board has by regulation required a permit for the construction, installation, or operation of any type of facility, [or] equipment, . . . the applicant

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*All citations to the Act refer to Sections as currently numbered.

shall apply to the Agency for such permit and it shall be the duty of the Agency to issue such a permit upon proof by the applicant that the facility [or], equipment, will not cause a violation of this Act or of regulations hereunder. The Agency shall adopt such procedures as are necessary to carry out its duties under this Section. In granting permits the Agency may impose such conditions as may be necessary to accomplish to the purposes of this Act, and as are not inconsistent with the regulations promulgated by the Board hereunder. *** If the Agency denies any permit under this Section, the Agency shall transmit to the applicant within the time limitations of this Section specific, detailed statements as to the reasons the permit application was denied. Such statements shall include, but not be limited to the following:

1. the sections of this Act which may be violated if the permit were granted;
2. the provision of the regulations, promulgated under this Act, which may be violated if the permit were granted;
3. the specific type of information, if any, which the Agency deems the applicant did not provide the Agency and;
4. a statement of specific reasons why the Act and the regulations might not be met if the permit were granted."

Congressional adoption in 1976 of the Resource Conservation and Recovery Act and the USEPA's adoption in May, 1981 (45 Fed. Reg. 33066) of interim final implementing regulations thereto, codified at 40 CFR Parts 260 through 265, created a federal hazardous waste permitting system preempting state programs inconsistent with or less stringent than the federal RCRA program. However, RCRA also provided that state programs could operate "in lieu of" the federal program provided those programs were "at least as stringent" and "not in inconsistent with" the federal program [42 U.S.C. Section 6902(b)].

The federal RCRA program, as well explicated by Mr. Dietrich at hearing (see generally R. 75-81), sets up a two phase authorization program. Phase I relates to so called "interim status" facilities. These facilities were in existence and operating in November, 1980, have filed specified notifications to USEPA and filed Part A RCRA permit applications. Such facilities are covered by broad, minimum interim operating rules, and are deemed to have RCRA permits during the possibly several years until RCRA permits are issued under Phase II.

Phase II involves the actual permitting of each facility. Phase II rules contain the technical standards for issuance of RCRA permits, allowing for tailoring of permits to site-specific conditions after public input.

Then, in 1981, the Illinois legislature in order to "avoid the existence of duplicative, overlapping or conflicting state and federal programs" Act, [Section 20(a)(8)], required the Board in Section 22.4(a) to adopt regulations within 180 days "identical in substance" to the federal RCRA program without regard to the Act's Title VII notice, hearing and public comment requirements or the notice and review requirements of the Illinois Administrative Procedure Act (IAPA) (Ill. Rev. Stat. ch. 127 §1001 et seq.) in order to gain state authorization to manage its own program. [However, Section 22.4(b) permits adoption of "not inconsistent" and "at least as stringent" additional rules provided Title VII (and IAPA) requirements are fully followed.] Permit requirements under Section 21 of the Act were also specifically amended by creation of new Section 21(f), the general waste disposal provisions of Section 21(d) having been made expressly inapplicable. Section 21 (f) provides in Part that no person shall:

> "Conduct any hazardous waste-storage, hazardous waste-treatment or hazardous waste-disposal operation:
>
> 1. Without a RCRA permit for the site issued by the Agency under Section 39(c) of this Act, or in violation of any condition 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; or
> 2. In violation of any regulations or standards adopted by the Board under this Act; or
> 3. In violation of any RCRA permit filing requirement established under standards adopted by the Board under this Act;
> 4. In violation of any order adopted by the Board under this Act."

In response to its RCRA rulemaking charge, the Board has completed two sets of RCRA rulemakings. The first rulemaking related to Phase I interim status rules. In Re The Matter of Proposed Rules for RCRA, R81-22 Preliminary Opinion and Order, 43 PCB 427, September 16, 1981, and Final Opinion and Order, 45 PCB 317, February 4, 1982, adopted, inter alia, as 35 Ill. Adm. Code 725 rules identical in substance to the federal interim status rules. The Board also adopted a Part 700, preserving the effectiveness of 35 Ill. Adm. Code Parts 807 and 809 (old Chapters 7 and 9). This rulemaking served as partial basis for Illinois' receipt, on May 17, 1982, of federal authorization to operate Phase I of the federal RCRA program (47 Fed. Reg. 21043). The Phase I rules were amended to reflect federal Phase I amendments in R82-18, 51 PCB 31, January 13, 1983.

Rulemakings related to Phase II are In The Matter of Phase II, 51 PCB 285, Proposed Rule, March 18, 1983 and RCRA Rules, R82-19, 53 PCB 131, Final Rule, July 26, 1983 and In the Matter of Technical Corrections to Phase II RCRA Rules, R83-24, 55 PCB 31, December 15, 1983. These rulemakings, among other things, adopted rules as Part 724 identical in substance to the federal Phase II permitting rules. It also adopted permitting standards and procedures in Parts 703 and 705. Certain of these Phase II rules were reviewed and affirmed in Commonwealth Edison Co. and Ill. Power Co. v. IPCB, Nos. 3-83-0749 and 3-84-0024 (consolidated), September 6, 1984.

The State has not, as yet, received federal authorization to administer Phase II, the permitting part, of the RCRA program.

As a final note, it should be mentioned that in adopting "identical in substance" RCRA rules, the Board made necessary adjustments from the federal administrative scheme, where USEPA serves as rulemaker, "policeman", prosecutor, and judge, to accommodate Illinois' bifurcated scheme that separates these functions between the Board and the Agency.

GROUNDWATER MONITORING PERMIT INTERIM STATUS VS. PERMIT REQUIREMENTS

The March 2, 1984 groundwater monitoring permit consists of a letter which contains 17 special conditions, and an Attachment B "Compliance Schedule" which contains 10 conditions.* WMI challenges the permit as a whole, on grounds to be set forth below. WMI is also challenging, on other grounds, Special Conditions 12, 13, 14, 16 and 17, in Attachment A special conditions 2, 3, 4 and 5 and Attachment B in its entirety.

As an interim status hazardous waste landfill ESL is required by Phase I regulations to meet certain groundwater monitoring requirements. The groundwater monitoring program must be capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility, 35 Ill. Adm. Code 725.190. To meet this goal, the regulations require that the groundwater monitoring system consist of monitoring wells (at least one) installed hydraulically upgradient from the limit of the waste management area, and monitoring wells (at least three) installed hydraulically downgradient at the limit of the waste management area (§725.191, R. 80-84).

The groundwater samples obtained from the monitoring wells must be analyzed during the first year of operation for drinking

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*While it is not usual Board practice to do so, this 15 page permit is attached hereto as Attachment 1 as an aid to the reader's understanding of the complexity of the issues herein.

water parameters (Part 725 Appendix III), for parameters establishing groundwater quality (chloride, iron, manganese, phenols, sodium and sulfate) and parameters used as indicators of groundwater contamination (pH, specific conductance, total organic carbon and total organic halogen). After the first year, the annual analysis includes the parameters establishing groundwater quality, and the semi-annual analysis is for the parameters used as indicators of groundwater contamination (§725.192, R. 80-84).

After the first year of analyses, comparisons are made between the upgradient and the downgradient wells. If these results determine a significant increase (or pH decrease) the owner or operator develops and submits a groundwater quality assessment program which must be implemented by the owner/operator (§725.193).

If the owner or operator determines that hazardous waste constituents from the facility have entered the groundwater then he continues to implement the groundwater quality assessment plan quarterly [§725.193(d)(7), R. 81-84].

The groundwater monitoring permit on appeal here, briefly summarized, requires the installation of 46 monitoring wells completely encircling the closed and future waste disposal areas of the interim status landfill. Special Conditions 1, 2, 5, 6, 7, 8, 9 10; Conditions 1, 6, 7, 8, 9 and 10 to Attachment A. The wells are spaced approximately 185 feet apart (R. 224). Four of the wells are background wells and thirty-seven are hydraulically downgradient. These wells are screened in the uppermost aquifer underlying ESL. Five wells are screened in the clay till. WMI does not dispute the number or location of the wells, although it believes the number of wells and the till monitoring requirements are in excess of that needed to adequately monitor ESL.

The permit imposes a schedule for sampling and analyzing groundwater collected from the wells in Condition 5 to Attachment A. In addition to the parameters imposed by Part 725, Subpart F--drinking water parameters, parameters establishing groundwater quality and the parameters used as indicators of groundwater contamination--the permit requires, during the first year, analysis of samples from certain wells for over seventy-five hazardous waste constituents identified at 40 C.F.R. Part 261, Appendix VII ("Appendix VII parameters")* as well as analysis of samples from all the wells for eleven additional inorganic parameters and thirteen additional organic parameters (Special Condition 13; Conditions 2, 3, 4 to Attachment A; R. 86).

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*The Board suggests that the parties are actually referring to Appendix VIII to 40 CFR Part 261, as Appendix VII is the "Basis for Listing Hazardous Waste", rather than "Hazardous Constituents." However, the Board will continue to refer to Appendix VII in order to avoid confusion.

In addition to the 46 new wells, the 8 old P-series wells must still be sampled and analyzed (Special Conditions 12, 13; Condition 2 to Attachment A; R. 87). After the first year, these samples must be analyzed for eight organic parameters in addition to those required by Subpart F (R. 87). Additionally, the permit allows the Agency to require a continuation of the monitoring of the P-series and nearby wells for additional analyses (Condition 2 to Attachment A; R. 87).

At any time, and in addition to Subpart F, when monitoring indicates a change in concentration of any of the 54 parameters, some in concentrations as small as 10 parts per billion, WMI must develop and submit for Agency approval a groundwater quality assessment program which must include a risk assessment as an initial step (Conditions 1, 2, 3, 4, 5, 7 to Attachment B; R. 89-91). If upon completion of the plan, the Agency decides at its sole discretion that there "may" be a violation of Section 12(a) of the Act or that there "is a risk of harm to public health or the environment," an engineering feasibility plan for corrective action must be prepared, submitted to the Agency for its approval or modification at its sole discretion, and implemented to the Agency's satisfaction (Conditions 5, 6, 8 to Attachment B; R. 94). Corrective action is not terminated until the corrective action performance standards have been met for three consecutive years (Condition 9 to Attachment B).

General Permit Objections

WMI's challenge to the permit as a whole is premised on alleged lack of Agency authority to issue any permits other than the "RCRA permits" defined in Section 3(vv) and authorized by Section 21(f) of the Act. The Agency does not presently have the federal authorization to issue such Phase II RCRA permits. It is uncontested that ESL is an interim status facility "treated as having been issued a [RCRA] permit" pursuant to 35 Ill. Adm. Code 703.153. WMI argues that its only groundwater monitoring obligations, then, are established by the Board's interim status groundwater monitoring rules, 35 Ill. Adm. Code 725, Subpart F. WMI asserts that no Agency permitting authority could flow from 35 Ill. Adm. Code 807--old Chapter 7--because those regulations were promulgated pursuant to Section 21(d) of the Act, now expressly inapplicable to hazardous waste sites pursuant to Section 21(f).

This argument is rejected. First, Part 807 was promulgated pursuant to Section 22 of the Act. More importantly, the Board had asserted the continued vitality of its pre-RCRA solid waste regulations in adopting both the Phase I and Phase II RCRA rules and modifications. As previously noted, the Board's position has recently been affirmed by the Third District Appellate Court reviewing R82-19 and R83-24, in Commonwealth Edison Co. and Illinois Power Co.v. IPCB. The court stated that:

"Prior to the time the Illinois legislature determined to administer a hazardous waste management program which satisfied the requirements of the federal RCRA, there was in place in the state a program which regulated the disposal of wastes. Administrative rules which govern the administration of the prior waste program are codified in 35 Illinois Administrative Code, Part 807. In the rules proposed to implement the RCRA program in Illinois, the IPCB determined that until the Illinois RCRA program is finally accepted by the United States Environmental Protection Agency, hazardous waste management owners and operators must obtain permits in accordance with the RCRA and the prior Illinois waste management law. This rule, set forth in section 700.501, is objected to by the petitioners. We agree, as the petitioners point out, that no express statutory authority exists for section 700.501 in the legislative enactment which provided for state rather than federal administration of the RCRA. Nevertheless, the legislature's action clearly demonstrates an intent to provide for continuing government supervision of this very pressing public health problem. If we are not to frustrate this intent for continuing supervision, we must find the authority to propose reasonable transition rules from the prior program to the new regulatory framework to be implicit in the legislature's action authorizing the IPCB to adopt rules to implement a state-wide RCRA program. (34 Ill. L. & Prac. Statutes, section 113.) Without such transition rules, a gap period would be created in which the state would be powerless to issue any permits for hazardous waste facilities. It follows then that until the United States Environmental Protection Agency issues authorization to the State of Illinois to issue permits under a state administered RCRA program, the proposed transition rule which continues the state permitting process is valid" (slip op. p. 5-6).

WMI has also challenged multiple conditions of this permit on grounds of lack of compliance with the Illinois Administrative Procedure Act. These arguments are rejected, as 1) the procedures for permitting under Chapter 7 were in existence in 1973, long before the July 1, 1977 applicability "grandfather clause" of Section 2 of the IAPA, and 2) the Act has never by reference expressly adopted the IAPA. (See Borg-Warner, v. Mauzy, 100 Ill. App. 3d 862, 427 N.E. 2d 415 (1981).]

Prior to addressing the challenged conditions in detail, the Board will not make factual findings as to which of any permit conditions WMI agreed, and will reject any argument that any condition is valid by virtue of the fact that WMI allegedly agreed to it. WMI correctly points out that a permit is not a contract to be negotiated by the Agency and the permittee as the Board has consistently held, e.g. Alburn, Inc. v. IEPA, PCB

80-189 and 80 190, 45 PCB 397, February 17, 1982, and Hyon Waste Management Services v. IEPA, PCB 76-166, 24 PCB 419, February 16, 1982.

Some further explanation is necessary here, as one current running through the hearings is that the instant appeal is somehow unfair or scurrilous because "a bargain is a bargain." A permit cannot be considered as a contract where various legal rights and privileges can be traded and shifted, because a permit affects not just the rights of the Agency and the permittee, but also those of the citizens. Were a permit to be considered a contract, in the hypothetical worst case a shoddy operator could negotiate an "anything goes" permit if he could locate an unacceptably "flexible" Agency permit writer. Even putting aside such a possibility, the right of the state's citizens to a healthful environment would be no better served by negotiations which would result in issuance of an arguably less-stringent-than-believed-necessary operating permit in consideration of, for example, a substantial donation to the Environmental Trust Fund to be used for environmental purposes; the environment would still be at the mercy of personalities, rather than of state regulatory policies arrived at after opportunity for public input and administrative and judicial review c.f. Waste Management of Illinois v. Tazewell County, PCB 82-55, 56 PCB 55, February 22, 1984 [rejecting a proposed stipulation under Section 39.2 including conditions judicially ruled outside a county's authority in County of Lake v. IPCB et al., 120 Ill. App. 3d 89, 457 N.E. 2d 1309 (1983), and banning disposal of out-of-state waste in potential violation of the Commerce Clause of the United States Constitution].

Conditions Inconsistent with Board Regulations

To the extent that the Agency has authority to issue the instant permit, such authority must flow from Part 807, and from Sections 12(a) and 39(d) of the Act. As the Board has acknowledged in the past, the decade-old Part 807 is "sadly out-of-date, under-comprehensive, and under specific," with several attempts to generate successor rules having failed. In The Matter of Permits for Waste Management and for Hauling of Special Wastes and Landfill Operating Criteria, R82-21 and R82-22, 52 PCB 431 June 16, 1983.* Part 807 itself does not specifically require groundwater monitoring, containing only a prohibition against development or operation of a site if "damage or hazard will result to waters of the state" (Section 807.315), and an application requirement for a "description of groundwater condition . . . [and] an appraisal of the effect of the landfill on groundwater" [Section 807.316(7)]. Groundwater monitoring was, however, clearly within the intent of Chapter 7 upon its adoption, as the Board noted that

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*However, in the most recent docket R84-17, there is promise of completion of this four year old effort.

> "Complete groundwater and subsurface characteristics of the landfill site may be required if the Agency determines that such investigation is necessary to prevent pollution of any waters of the State. The Agency may also require that the groundwater be monitored at such reasonable frequencies as it deems necessary." (In The Matter of Chapter 7: Solid Waste Regulations, R72-5, supra, 8 PCB at 697.)

While Part 807 does not specifically authorize the Agency to issue "groundwater monitoring permits", it does authorize issuance of development permits, operating permits and supplemental permits (Sections 807.201, 807.202 and 807.210). The Board construes the instant permit as a supplemental permit modifying a development permit.

Within its four corners Part 807 does not contain specific groundwater monitoring standards promulgated by the Board. Section 807.206 does, however, reiterate the stricture of Section 39(a) of the Act, allowing the Agency to establish only such permit conditions "as may be necessary to accomplish the purposes of the Act, and as are not inconsistent with Regulations promulgated by the Board thereunder." The Board construes its RCRA rules as providing guidance for use of Part 807 permitting authority. In so finding, the Board believes that the Agency is thereby provided with sufficient direction to obviate any question of unlawful delegation of the Board's rulemaking or adjudicatory authority c.f. Peabody Coal Co. v. IPCB, 36 Ill. App. 3d 5, 344 N.E. 2d 279 (1976); U.S. Steel Corp. v. IPCB, 52 Ill. App. 3d 1, 367 N.E. 2d 327 (1977); Commonwealth Edison, supra.

Mr. Dietrich, author of the 40 CFR Part 265 interim status groundwater monitoring requirements, as well as the 40 CFR Part 264 Phase II permitting groundwater requirements, identified several conditions which he believes to be "inconsistent" with the virtually identical Board Part 725 and Part 724 rules. Mr. Dietrich believes that, to the extent that the permit, through its conditions

> "is an integral part of the state program and to the extent it deviates and is inconsistent with the Part 725 regulations of the state, and is inconsistent with the Part 264 regulations of the federal goverment, it could jeopardize, it may jeopardize the granting of final [Phase II] authorization." (R. 117.)

The "inconsistencies" observed by Mr. Dietrich are laid out in the transcript at R. 95-97, 99, 107-109. These "inconsistencies" fall into the following general categories: monitoring for additional parameters, sampling of till wells in addition to aquifer wells, the setting of detection monitoring triggers requiring assessment monitoring, establishment of a 10 ppb groundwater protection standard, and various conditions allowing

the Agency to require assessment and corrective actions without permit modification or review.

The Board does not challenge Mr. Dietrich's reading of which conditions are different than RCRA requirements. However, the Board does not view all of these "inconsistencies" as being fatally infirm, and in contravention of the RCRA regulations and their philosophy.

As heretofore indicated, Part 725 contains minimum standards established by USEPA pending its ability to review existing facilities on a site-by-site basis, which minimum standards were "passed through" by the Board without substantive change pursuant to legislative mandate. The Commonwealth Edison court has agreed that the existing state hazardous waste system is not displaced by with the RCRA system during the period before Illinois' receipt of Phase II permitting authorization. Therefore, in scrutinizing the challenge of conditions, the Board will consider a) whether the conditions flow from legitimate Agency exercise of Part 807 permitting powers previously recognized by this Board and the courts, b) whether such Part 807 based conditions bear a reasonable relationship to activities at the site, and finally c) whether the conditions are fundamentally incompatible with the procedures or other specific requirements of the Act or the Phase II RCRA rules adopted by the Board.

Special Attachment B Compliance Schedule
Special Conditions 16 and 17

Special Attachment B must be stricken in its entirety. WMI contends, and the Board agrees, that this attachment amounts to an administrative compliance order. The Board has previously found that the Agency has no statutory authority to issue administrative compliance orders e.g. Ill. Power Co. v. IEPA, PCB 83-53, 55 PCB 13, 16, December 1, 1983, and finds this one to be particularly repugnant given the public debate, through comments, contained within the Phase II RCRA rulemakings.

The Agency's permit manager Mr. Eastep has stated that Attachment B could be deleted and a facility would still be in compliance with the Board's interim status Part 725, Subpart F regulations (R. 955-956); as is amply demonstrated by testimony of various Agency personnel (e.g. R. 835, 1346), the essential reason for inclusion of the schedule is to get "quick" response if anything goes wrong. However, in the interests of expediency, the power of the Board to set environmental control standards and the rights of the public to participate therein has been usurped, a permittee's due process rights have been extinguished, and the enforcement ability of the public, and of elected law enforcement authorities such as the Attorney General and the state's attorneys has been eliminated.

In Condition 1, the 10 ppb assessment trigger is an attempt to devise an environmental control standard by the Agency, an activity which the courts have recognized is within the sole province of the Board (Landfill, Inc., supra, Peabody Coal Co. v. IPCB, 36 Ill. App. 3d5, 344 N.E. 2d 279 (1976), Commonwealth Edison, supra). The balance of the conditions allow the Agency to initiate and exclusively approve, and allow termination of assessments and corrective actions without permit modification with attendant public participation and appeal rights. This is nowhere authorized in Part 807 or Part 725, and was specifically prohibited in Part 724 after considerable public comment (Phase II RCRA, supra, 53 PCB 156-157).

Similarly, Special Conditions 16 and 17 would permit the Agency "at its sole discretion" to require additional monitoring devices and parameters and to otherwise modify the permit as deemed necessary. These conditions, as drafted, are beyond the Agency's authority to impose, and violate basic rights of due process in the same manner as does Attachment B. Part 807 allows for unilateral permit modification arguably only in Part 807.209, directing the Agency to "revise any permit issued . . . to make [it] compatible with any relevant new regulations . . . ." While Section 702.183 of the Board's RCRA rules allows the Agency the right of unilateral modification under certain conditions (Section 702.183), these rules do not become operative until Phase II RCRA authorization is received [Section 700.106(d)]. Further, in adopting the unilateral modification rule, the Board took pains to explain and limit the unilateral modification right, recognizing that, as a practical matter, permit modification could be impermissibly used as a substitute for the enforcement mechanism set up under the Act to guarantee public participation and Board review (Phase II RCRA, supra, 53 PCB 155-157). The practical effects of these Agency actions used as an enforcement substitute will be discussed at the conclusion of this Opinion.

The "P wells" and G well monitoring parameters and frequency: Special Condition 12 and 13; Attachment A, Conditions 2, 3, 4, 5.

As has been previously discussed (supra, p. 7), WMI's P series wells were installed to replace the G wells, and have been monitored to comply with both the federal interim status rules and the Board's interim status Part 725, Subpart F rules. The P series wells, since constructed with joints welded by solvent based glue, are susceptible to providing samples showing "false positive" readings of low level organics contained in the glue (R. 409, 944, 1094). In this context, Mr. Eastep has noted that "[i]f you really had a question about the well construction, the prudent thing to do would be to put in a new well" (R. 945-46). Some of the wells are sometimes dry, or incapable of yielding sufficient volume to gain samples on other than consecutive days (see e.g. R. 1165, Resp. Exh. 26, p. 2).

In its permit application, WMI had proposed to decommission these wells, upon installation of the new 46 well monitoring system. The permit as issued requires continued testing of the P wells, incorporating the ongoing assessment plan already required by §725.193. In addition, the P wells and eight new wells closest to each P well must be monitored for the over 75 hazardous waste constituents contained in Appendix VII of 40 CFR Part 261, a requirement not in the Board's Part 725. Upon submission on July 15, 1984 of an assessment report, if the Agency should determine that the facility "has not affected the groundwater", P wells could be decommissioned (Attach. A, No.2). However, any P wells the Agency found to be affected would possibly require assessments, approvals and corrective action pursuant to several conditions of Attachment B. WMI challenges the Special Conditions 12 and 13 Attachment A concerning P well monitoring on grounds of inconsistency with Section 725.193, and on unreasonableness (Attachment B arguments will be discussed, infra).

The specific reasons for the Agency's inclusion of the conditions relative to the P wells are contained in the testimony of Linda Kissinger, primary author of the permit letter and Attachment A (R. 1150-1214) and David Favero, primary author of Attachment B and contributor to Special Conditions 12, 13 and Attachment A, Condition 2 (R. 1324-1375). In the words of Ms. Kissinger

> "The P series wells were included in the permit . . . in accordance with the assessment that had been going on once they had found a statistically significant increase in the indicator parameters in the P wells.
>
> [Special Condition 12] was included because the G series wells would not have had background quality established for the next year, and this allowed ongoing testing and statistical comparisons to be made during that time frame.***
>
> They had proposed in the application to sample [the P wells] the first quarter to complete the assessment, and we wanted them to be sampled during the collection of background data on the new G series wells so we could look for similarities between their old--not old analysis, their old wells and samples collected from those, and samples collected from the new ones for the same time period, and also to complete the groundwater assessment started under 725." (R. 1174-1175. Also see Favero, R. 1341, 1344-1345.)

As to Special Condition 13, Mr. Favero testified

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*This, and other guidance documents referenced in Mr. Favero's testimony are not included in this record or specifically cited so as to be accessible to the Board.

"After a revised assessment plan was submitted to the Agency in November by Waste Management, we received some guidance from the Federal Government* on conducting assessment plans, assessment programs at hazardous waste facilities, and it included specific testing procedures and paramenters to check for, and by way of this permit, we wanted to include this latest technical guidance and apply it to the ESL facility.

Additional wells were selected in order that we could try to phase out these key wells, and know exactly the construction details and the integrity of the wells we were dealing with, and to also make sure that we got a sample from the aquifers in the vicinity of the P wells, and not necessarily from the till material." (R. 1215.)

The record does not, however, specifically explain why testing is required for every Appendix VII hazardous waste constituent, as opposed, for instance, to those identified in the facility's leachate.

The conditions at issue here are different from those contained in Part 725 to the extent that they a) deal with the phasing-out of wells whose detection capabilities are questioned by WMI, various Agency personnel and Dr. Sternberg, who participated in the design of the new 46 well detection monitoring system, b) the conditions specify which hazardous constituents must be monitored for, and c) Attachment A, paragraph two allows the Agency, rather than the owner, to determine which P wells have been affected by the facility, before decommissioning them. Under Part 807, the Agency has historically had fairly wide latitude to require what should, under the RCRA system, be called "detection monitoring". As the Board has previously commented "the monitoring of groundwater is as yet an inexact science (or art), and the Board believes that [i]nitially, refinement is less important than comprehensive coverage, no matter how preliminary or approximate . . . " Frinks Industrial Waste, Inc. v. IEPA, PCB 83-10, 52 PCB 447 June 30, 1983. The latitude which has been afforded the Agency under Part 807 to require "detection monitoring" is also in line with various duties to collect and require information under the Act, see Section 4(b,c,h). However, under the circumstances of this case, these challenged conditions are, in part, unreasonable.

The intent of WMI's assessment plan, as reiterated in its 1983 groundwater monitoring report (Resp. Exh. 32-33), was to decommission the wells because of their unreliability after completion on June 15, 1984 of the assessment required under Part 725. Yet, the Board sees the logic of the Agency's desire, as expressed by Ms. Kissinger, to have sampling, although of highly questionable usefulness, continue in the P wells while background quality was established in the G wells. Continuation beyond that time of the P wells monitoring, however, serves no useful purpose.

As to the parameters to be sampled, this issue is intertwined with the challenge to the sampling parameters contained in Conditions 3 and 4 to Attachment A, requiring sampling and analysis for certain leachate parameters and Appendix VII constituents in addition to those required by Section 725.192. As a threshold matter, that portion of Condition 4 which allows unilateral modification of the list of parameters to be monitored is stricken, for the reasons expressed regarding Special Conditions 16 and 17. The Board finds that Part 807 would authorize sampling for parameters beyond those contained in Section 725.192, but only to the extent that such parameters or classes of parameters are those which could be found in the facility's leachate, based on the waste material there disposed of Pet. Exh. 15 and Resp. Exh. 40) cf. Olin Corp. (East Alton) v. IEPA, PCB 80-126, 45 PCB 389, February 17, 1982. The unverified findings of organic contaminants of trace levels in some monitoring wells provides a modicum of additional support for requiring detection monitoring for organics at the facility, to determine whether or not organics are present. The parties have not advised the Board as to whether all of the Appendix VII constituents meet the above criteria, and due to the shortness of the Board's review time the Board is itself unable to make the comparison.

The Board further finds that Condition 5 to Attachment A requiring quarterly rather than semi-annual monitoring is also within the permissible scope of Part 807.

Summarizing the Board's holdings on these conditions: Special Condition 12 is affirmed as modified in the Order, Special Condition 13 Paragraph 1 of Condition 2 to Attachment A and Conditions 3 and 4 to Attachment B are affirmed subject to comparison of the parameters to the facility leachate (although the modification portion of Condition 4 is stricken), Condition 5 to Attachment A is affirmed, and Paragraph 2 of Special Attachment A shall be revised to allow for decommissioning of the P wells once background water quality for the G wells is obtained.

Special Condition 14

This condition is stricken as a restatement of existing law not necessary for administrative convenience or to accomplish the purposes of the Act see Illinois Power, supra. This condition is easily distinguishable from, for instance, a condition in an NPDES permit which contains a specific effluent limitation which is a verbatim restatement of a limitation contained in a Board regulation. That repetition is convenient both to the operator and the Agency, providing in a single document a facility's operational standards, and is expressly provided for in Section 39(b) of the Act. To the extent that inclusion of the limitation allows for "double enforcement" against alleged violation on the grounds of violation of a permit condition and a Board regulation, such double exposure is clearly part of the statutory scheme.

The instant wholescale incorporation by reference of Subpart F in its entirety is in furtherance of no legislative purpose, and is at best mere surplusage. At worst, it leads to the query of whether, since the permit does not also incorporate the Act by reference, WMI is relieved of any obligations thereunder by virtue of the omission.

THE TRENCH 11 OPERATING PERMIT AND SUPPLEMENTAL WASTESTREAM AUTHORIZATIONS

The stated bases for the denial of WMI's operating permit for Trench 11 are contained in Mr. Eastep's April 20, 1984 letter, as follows:

> "Prior sampling by this Agency and by Waste Management, Inc. has indicated the presence, or potential presence of hazardous waste constituents, in the groundwater at the ESL site.
>
> Furthermore, the applicant has not satisfied the requirement of 35 IAC Part 725, Subpart F: Groundwater Monitoring. With regard to the 'P' series wells, the applicant has not satisfied the requirements of 35 IAC 725.193(d)(4). With respect to the 'G' series wells permitted under IEPA permit 1984-16-SP (March 2, 1984), those wells have not been sampled and analyzed pursuant to the permit and to 35 IAC 725.192(a) and (b)."

On April 30, 1984, previously applied for wastestream authorizations were also denied for the same reasons which formed the basis of denial of the Trench 11 permit.

Prior to discussing these issues, it is important to note the scope of the Board's review powers in Section 40 permit appeals. As the Board has noted on reconsideration in another case involving operating permit denial on the basis of alleged groundwater monitoring deficiencies, Frink's Industrial Waste v. IEPA, PCB 83-10, 52 PCB 447, Opinion and Order, June 30, 1983, Order on reconsideration 54 PCB 25, September 8, 1983:

> "Since 1972, the Board has consistently held 'that the issue is, in a Section 40 hearing, whether the Agency erred in denying the permit, not whether new material that was not before the Agency persuades the Board' the Agency was wrong Soil Enrichment Materials Corp. v. IEPA, PCB 72-364, October 17, 1982." (54 PCB at 27.)

The Board's view of its Section 40 role has been confirmed by reviewing courts, e.g. Mathers, supra. In this context, then, the Board must mention the testimony of Dr. Warner and Dr. Hryhorczuk. These experts had no participation either in the preparation of the permit applications, or in the Agency's permit decision

deliberations. The hearing officer allowed the testimony of these two doctors "for purposes of rebutting anything that any witness presented on behalf of Waste Management, but ... [not as] independent evidence in support of the Agency's actions in this case" (R.1253). While the Board does not find the ruling of its hearing officer allowing this testimony on a very limited rebuttal basis so clearly erroneous as to merit reversal, their testimony can lawfully be accorded but little weight.

Much of the testimony of these experts, as well as that of citizens and Agency witnesses, essentially revolved around the issues of a) whether waste disposal should ever have been allowed at the site given the "geology of the site", it being stipulated that the construction and design of Trench 11 in and of itself is not at issue (R. 68) and b) whether a new 1984 "state of the art" Trench 11 should be allowed to operate at a site initially permitted in 1972, when experts generally agree that all landfills will eventually leak and the site as a whole has no active leachate collection system, trench by trench synthetic liners, or other mechanisms to prevent escape of contaminants from the areas in which they have been disposed.

Again, these issues are not before the Board. In IEPA v. IPCB, 86 Ill. 2d 390, 427 N.E. 2d 162 (1981), the Supreme Court was reviewing a denial of a permit to the U.S. Steel Corp. on the stated basis of lack of compliance with air rule 203(a). At hearing, issues arose concerning compliance with air rule 203(f). The Supreme Court stated that

> "We do not believe, however, that the issue of compliance with Rule 203(f) was even before the Board. Section 39 of the Act [citation omitted] requires that the Agency state reasons for denial of a permit: 'If the Agency denies any permit under this Section, the Agency shall transmit to the applicant within the time limitations of this Section [90 days] specific, detailed statements as to the reasons the permit application was denied,' including '(ii) the provision of the regulations, promulgated under this Act, which may be violated if the permit were granted' [citation omitted]. The Agency's letters did not specify any violation of Rule 203(f). Although section 40 of the Act [citation omitted] provides that, on review of a permit denial, 'the burden of proof shall be on the petitioner,' it also states that '[t]he Agency shall appear as respondent in such hearing.' In Oscar Mayer & Co. v. Environmental Protection Agency (1978), 30 Ill. P.C.B. Op. 397, 399, the Board stated:
>
> > '[I]n a Section 40 proceeding the Agency must file within 14 days of notice, the entire record of the permit application, including the application, correspondence, and the denial. The application is

> necessary to establish the facts which were before the Agency for consideration. The correspondence file, if any, supplements the application insofar as it provides additional facts. The denial statement is necessary to verify that the requirement of Section 39(a) of the Act has been fulfilled. This material, in the opinion of the Board, should be sufficient to frame the issue of fact or law in controversy in any hearing on a Section 40 petition.'
>
> We believe that the Agency had a duty, reading sections 39 and 40 of the Act together, to specify reasons for the denial, including, if it intended to raise the issue before the Board, the lack of compliance with Rule 203(f), or be precluded from raising that issue.***" (427 N.E. 2d at 169-70) (emphasis added).

With this statutory framework in mind, then, the Board will first turn to the stated reasons for the Trench 11 and wastestream denials. While questioning the necessity of, or its authority to, address the other concerns which surfaced at hearing, the Board will do so to protect all parties' rights to a speedy determination of this controversy by avoiding a remand by any reviewing court for Board deliberation of the concerns unstated in the permit denial letter.

The Alleged Presence or Potential Presence of Hazardous Waste Constituents in the Groundwater at the ESL Site

Agency testimony (e.g., p. 870, 937-38) indicates that this concern stems principally from the sample results of December, 1982 from well G 105, and from August, 1983 samples from the P wells showing extremely low levels of organic constituents. The G 105 well sample result, which even in January, 1983 one Agency employee believed could be the result of a sampling or laboratory error (Pet. Exh. 28), provides insufficient basis for denial on this ground: the sample was unverified and the sampling results for the subsequent five quarters showed no contamination in this or any other wells (Pet. Exh. 17-21, see also R. 1451, 1054).

The most persuasive testimony concerning the August, 1983 results of tests from the P wells is that of Mr. Hurley, head of the Agency's Springfield laboratory, which exclusively handles organic analyses. August 17, 1983 samples taken at ESL showed: for wells P2, 2 ppb tetrachloroethylene; P5, 13 ppb dichlorofluormethane; P1, P4, P6, P7, P8 none detected (R. 1673-1674, Resp. Exh. 4). In performing the analyses, the laboratory used a gas chromatograph (gc) mass spectrometer for organics identification generally, and a gc Hall detector for volatile organics, primarily chlorinated organics (R. 1664-1668).

Mr. Hurley testified that he did not know of any type reaction that could occur between PVC pipe and the compounds listed in the P well glue sample that would produce the chlorinated or fluorinated compounds listed above. He also stated that these compounds are not a natural constituent in petroleum oil (R. 1681-1683) although he did not know whether other chemicals might be in the glue (R. 1734). He did not believe the results were caused by laboratory error (R. 1684).

Regarding sample collecting, Mr. Hurley acknowledged a) that he does not know how the well samples were taken and b) that the laboratory does not use the recommended USEPA procedure of using both trip blanks and field blanks so as to eliminate the possibility of airborne contamination (R. 1686-1691). Instead, the laboratory sends out trip blanks. One of the two August 17, 1983 trip blanks sent out in the field for quality control was returned unopened, but contaminated with about 11 ppb of 1,1,1 trichloroethane, while the other blank was not (R. 1692-1693). The first blank was run on the Hall detector while the other was run on the gc mass spectrometer. Mr. Hurley acknowledged the probability of laboratory contamination or possibly ambient air contamination (the level was in the range of the required well water testing for contaminants), but could not explain why only one bottle was contaminated. He was concerned about these results, but no further sampling or analysis was done. (R. 1693-1699). Regarding detection limits on both instruments, he testifed that they could vary from 1-5 ppb for the gc mass spectromether and 1 ppb for the Hall (R. 1699-1706), and that methodology is important when testing materials close to the detection level (R. 1731-1734).

Mr. Eastep testified that he relied on the August, 1983 P-series well tests and did not recall seeing the subsequent negative tests after August, 1983 and prior to the April 20, 1984 denial letter (R. 937-938). The Agency was, or should have been, well aware that future samples need to be analyzed "before a determination can be made as to whether a well is showing contaminents" (See Pet. Exh. 28), and certainly when initial results are close to the detection limit. Part 725 and good scientific practice dictate confirmation of results. As Dr. Sternberg stated, regarding pre-assessment detection monitoring,

> "When one takes a groundwater sample, or for that matter, in any scientific field, that I know of, if you measure something and you get a--let's call it a positive reading one, that does not, in the scientific community eye, imply that this is a confirmed reading.
>
> That only tells you that you should proceed with caution, namely, that blip or positive reading, or anomaly or whatever you want to call it, requires further attention.

> What it requires is additional or subsequent sampling, subsequent testing, proper testing. It says, to me, look, potentially there is something there. What we need to do is to go investigate it further." (R. 541)

Here, the Agency did not do so. There is no evidence in this record that the Agency even reviewed the subsequent quarterly test results on any of the wells, which information was available to it. Any subsequent negative results challenge the validity of an initial test just as subsequent positive results serve to confirm an initial test. Replication and repetition are essential, to determine not just whether there is contamination but the precise nature and amount of it. Otherwise, attempts to locate the source of the contamination, and to implement any subsequent remedies can turn into a wild goose chase which ill-serves the public.

The Board notes that this was not an exigent situation where the statutory deadline required action based on just-received results, or where a waiver had been sought and refused while results were being confirmed. Based on the evidence here presented, as interpreted in the light of its technical expertise, the Board finds the unconfirmed August, 1983 test results to be an insufficient basis for denying the Trench 11 and wastestream permits.

Part 725 and the P Series Wells: Alleged Failure to Implement an Assessment Plan

Mr. Haney, manager of the Facilities Compliance Unit of the Division of Land Pollution Control, met with Messrs. Eastep and Chappel on or about April 20, 1984 (R. 1272) and informed them that ESL was in violation of 35 Ill. Adm. Code §725.193(d)(4) because he had no evidence which proved that Waste Management had implemented an assessment plan (R. 1270). Mr. Eastep apparently relied on Mr. Haney's representation and relayed it on April 20 to Mr. Kuykendall, who made the decision to deny (R. 744). The April 20 and 30, 1984, denial letters included the statement as a basis for denial.

The Board finds ample evidence in this record to show that the Agency, as a whole, knew or should have known that the assessment plan filed June, 1983 (see p.9, supra, footnote) was being implemented. Mr. Walczynski had notified the Agency of the implementation of the assessment orally and in writing in September, 1983 (Pet. Exh. 31, R. 1458). The Annual Groundwater Monitoring Report filed March 1, 1984 indicated that the Assessment Plan had been implemented: "the groundwater at the facility is being monitored to satisfy the requirements of Section 725.193(d)(4) . . . " (Pet. Exh. 30, p. 2). While the assessment plan by its terms called for a report on March 1,

1984, paragraph 13 of the March 2, 1984 groundwater monitoring permit, written by Mr. Favero, a member of Haney's staff, specifically refers to the groundwater assessment program and grants WMI an extension of time in which to file the assessment report (Pet. Exh. 1, par. 13).

The Board additionally notes that the dates contained in the assessment plan for Phase I reporting (Resp. Exh. 32, p. 02535), indicates that the timetable was contingent on January 1, 1984 Agency approval, and presumably permitting, of the new groundwater monitoring network, based on permit application submittal December 1. WMI submitted its application December 28, following December consultations with the Agency concerning the Woodward-Clyde report (see supra, p.9). The entire history of the groundwater monitoring permit, in short, is indicative of efforts to implement an assessment plan.

Failure to Test the New G Series Wells

The final stated basis for the April, 1984 denial of the Trench 11 permit was that the new wells installed pursuant to the March 2, 1984, groundwater permit had not been sampled and analyzed. The March 2, 1984 permit did not by its terms require WMI to sample the wells before May and the results of the sampling analyses were not due until July 15. (Resp. Exh. 11, Special Condition 1).

In its letter of March 30 to Mr. Eastep (Pet. Exh. 22, p. 2), WMI specifically asked whether the Agency felt it needed samples from the new system in order to make a decision on the Trench 11 application. Mr. Eastep testified that he did not reply to this letter (R. 949, see also R. 722). The record does not otherwise indicate that WMI either received an answer to its question, or that any Agency personnel independently expressed a desire for such sampling results. Indeed, Mr. Kuykendall testified that in February-March he had "no position" as to whether such results were needed (R. 721-22, 26).

The Board finds that this stated ground cannot support denial of these permits. In a similar, prior case involving multiple attempts to gain permits, albeit air permits, the Board rejected a similar Agency lack of information as basis for denial argument. The Board stated that

> "when the Agency cannot make a reasoned decision on the basis of the information submitted in the application as well as other data it customarily and reasonably relies upon, it shall notify the applicant of the specific additional information necessary for its determination. It would be a somewhat capricious exercise of its powers under

> the Act for the Agency to deny a permit on its merits for insufficiency of information proving nonviolation while knowing that if specific additional data or information were provided or were considered it could make a better-informed decision on the application. Indeed, Sherex many times invited the Agency to request Sherex to provide any additional information the Agency might deem necessary in order to make a determination on its application." Sherex Chemical Co. Inc. v. IEPA, PCB 80-66, 39 PCB 527-528 (1980), affd. sub nom. IEPA v. Sherex Chemical Co. and IPCB, 100 Ill. App. 3d 735 ___ N.E. 2d ____ (1981).

In a case even more on point, Frink's, supra, the Board reversed an Agency denial of an operating permit to four above-ground storage tanks located on a 4.8 acre waste disposal site. Waste had previously been stored on the site in underground storage tanks and in lagoons since abandoned (closed). Groundwater contamination was undisputed, although there was some question of whether contamination was caused by leakage in the underground tanks, or by excavation of the lagoon at Agency direction. Frink's had, shortly before permit denial, suggested that an operating permit include a condition that its proposed groundwater monitoring system be put in place. One of the cited reasons for denial was failure to install monitoring wells for which a permit had been applied for, but not issued or denied. The Board there found it

> "impermissible to deny an operating permit on the grounds that no wells had been installed where wells could not be installed without a permit." (52 PCB at 457).

The Board finds it equally impermissible here, equally a "Catch-22" situation, to deny permits on the ground that sample results were not submitted by April 20 or 30, when the groundwater permit did not by its terms require sample results until July 15, and WMI was never asked for results prior to the denial decision.

THE UNSTATED BASES FOR PERMIT DENIAL

Geology of the Site

Mr. Eastep acknowledged that, although he was aware of the Act's requirements, concerns about geology were not contained in the letter of denial (R. 1086-87). However, as afore-mentioned, the Board will address the geology/hydrogeology issues since, properly or not, the Agency at hearing raised this as an issue. While a number of witnesses referenced the geology and hydrogeology of the site, the witnesses whose testimony is touched upon below appeared to have been the ones primarily relied upon by the Agency for their evaluations and conclusions (except that Dr. Warner, as earlier noted, played no part in the Agency's decision).

To repeat, there were a number of investigations and data reviews of the geology and hydrogeology of the site, going back to 1972. Between 1980 and late 1983, these were performed by Woodward-Clyde Consultants, encompassing "several thousand maybe" hours of effort. The most recent studies of December, 1983 (Pet. Exh. 6 and 7), following on previous studies, were performed for WMI in consultation with the local citizens group and their consultant, Dr. Sternberg, University of Maryland, with involvement by the IEPA and the State Geological survey (R. 152, 229-235, 511-513).

Mr. Hendron testified on the Woodward-Clyde studies. The area consists geologically of Silurian Dolomite, the uppermost bedrock, underlain at depths of several hundred feet by Ordovician deposits. Maquoketa Shale restricts the flow between these two formations. Hydrogeologically, the Silurian Dolomite is an aquifer as is the Ordovician, the latter providing a source of municipal water. Overlaying the bedrock is a surface clay deposit into which the waste disposal is planned (R. 146-151). Woodward-Clyde concluded, based on their previous work and confirmation studies, that the site is acceptable for the design and operation of a hazardous waste facility and that Trench 11 is properly designed. This conclusion was premised in large measure on the cohesiveness, uniformity and permeability findings concerning the glacial till deposits (R. 153, 218, 219).

Regarding the uppermost aquifer, Woodward-Clyde determined that the groundwater primarily flowed horizontally to the northwest towards the Des Plaines River, and that the gradient of flow is flat--about 10 ft/mi over most of the site, tending to steepen towards the Des Plaines River--to a maximum of 35-40 ft/mi (R. 190, 191, 199). A water well survey showed no wells north or west of the site. The residential wells are primarily located in a southern and eastern direction from the site. Mr. Hendron does not believe contaminants could conceiveably reach these wells. (R. 198). [(The municipal wells serving Channahon and part of Joliet are in the deeper Ordovician bedrock (R. 198, see Exh. 7, Fig. 33).] Mr. Hendron testified that, given the groundwater gradient and calculated flow rate, "present technology for containment and retrieval should be more than adequate" in the event of a release (R. 202).

Dr. Sternberg, who participated in design of the ultimately accepted monitoring well system after reviewing the hydrogeology of the site, agreed that the groundwater flow is primarily in a westerly or northwesterly direction (R. 523, 647), and that the wells will detect a leak that, as with all landfills, he believes will inevitably occur (R. 539). He emphasized that the well system was established not for assessment monitoring, but as a detection system, sufficient to scientifically lead to proper documentation and further review if a sample shows a positive

reading, ultimately leading to remedial action to avoid a health hazard if one were found (R. 542). He also stated that an Olin gypsum pile and tailing ponds to the north of the site could have a localized contaminating effect on the groundwater. Dr. Sternberg does not know of any scientific or technological reason why Trench 11 could not operate. He also believes that the P wells are inadequate for monitoring (R. 547, 548)

Dr. Nisbet testified that, specifically for Trench 11, the groundwater gradient is exclusively towards the northwest (R. 584). He also stated that, even if hypothetically there were volatilization of an earlier undetected leak at the bottom of the Des Plaines River bluffs, its concentration would be far below any health concern--40-70 nanograms/m^3 (a nanogram is one billionth of a gram) (R.583). Apart from the Trench 11 area, he verified that there may be some southwesterly flow of groundwater from the southwestern part of the site, but not for a significant distance because of higher groundwater elevations south and southwest of the site (R. 585, 586).

Mr. Nienkerk, geological advisor of the Agency, testified that the likelihood of contamination reaching a residential well was slim, that the uppermost aquifer, the one of concern, is being properly monitored, and that the predominant flow of the groundwater is northwest. Mr. Nienkirk raised concerns about site geology, particularly of the glacial till and the fractured Dolomite (R. 1095-1097). Although WMI had performed further studies in response to Agency concerns regarding the site's geology, culminating in the December, 1983 Woodward-Clyde "in consultation" study earlier described, Mr. Nienkerk acknowledged that he did not read this study or do independent studies, since he had already concluded that his concerns about the site could not be satisifed (R. 1132-1137). He also agreed that Mr. Chappel disagreed with some of his conclusions about the site, but that the Agency asked for additional information, in part based on his concerns. This was provided in the December, 1983 Woodward-Clyde report (R. 1130-1131).

Dr. Warner's testimony was allowed for purposes of rebuttal only, since he played no role affecting the Agency's permit denial decisions (R. 1251-1254, 1538). He visited the site and reviewed various reports, particularly the Woodward-Clyde July and December, 1983 reports (R. 1484, 1539). He concluded: that the groundwater moved in all directions, 360 degrees, away from the site; based on the specific conductivity values (Pet. Exh.30) the groundwater is presently contaminated (R. 1488-1491), and that the Olin gypsum pile was not the cause (R. 1492); that the organic contaminants in some of the wells could have come from the trenches (R. 1497); that the large scale permeability of the site may differ from the permeability studies performed (R. 1500) and that the permeability could be larger (R. 1502-1504); and that

large scale vertical migration on the existing site through the till is inevitable absent a leachate collection system (existence of which was disputed) (R. 1506, 1510, 1513). Dr. Warner disagreed with the average velocity of flow calculations (R. 1519) and travel time (R. 1522-1527). Dr. Warner had no opinion regarding the accuracy or reliability of the organic sampling results (R. 1546) and acknowledged that if subsequent sampling analyses from well G 105 and others showed negative results it would affect his opinion (R. 1562).

Mr. Hendron, testified in rebuttal to Dr. Warner. Regarding specific conductivity, he believed that the highly mineralized groundwater, not properly recognized by Dr. Warner, led to an erroneous conclusion of high groundwater contamination (R. 1921). Reviewing the same data, he did not see elevated levels of organics but possibly of sulfate (R. 1922), which, if so, would be coming from the adjacent Olin gypsum pile and ponds (R. 1925, 1980). Regarding groundwater flow, he felt that Figure 33, Exh. 7 opposes Dr. Warner's conclusion, including no showing in the Figure 33 of flow to the east (R. 1930, 1931).] Regarding permeability, Dr. Warner had testified that Woodward-Clyde found agreement through four lines of evidence that the "10^{-8} for the till is a very reasonable value" (R. 1937); that both field and laboratory tests closely approximated the mass permeability (R. 1939), and that the fractures did not provide preferential pathways (R. 1940-1948). In response to Dr. Warner's testimony concerning velocity rates, Mr. Hendron testified that Dr. Warner's velocity figures would translate to 20,000 cu/ft/yr/acre, which, in the 12 year old site, would lead to an organics level of several thousand parts per billion today in the P and W series wells closer to the site (R. 1953). Finally, Mr. Hendron believes that in Trench 11's design, infiltration will be eliminated to the best engineering extent possible (R. 1976-77).

The Board, in reviewing all the testimony regarding the geology and hydrogeology of the site, and particularly the data and conclusions presented to the Agency prior to its decision, is persuaded a) that this site has been probed, tested and evaluated to an unusual degree, b) that the preponderance of professional testimony, especially by those who conducted independent studies, indicates that the site's characteristics are not such that it is inherently unmanageable, c) that there is an undisputed "worst case" design of the detection monitoring well system and a state-of-the-art design of Trench 11 and d) there are protective remedies available in the event of verified contamination, particularly since the groundwater monitoring regulatory scheme, for Trench 11 as well as for the rest of the site, is premised on the anticipation of a leak.

The Consequences of "Expedited" Environmental Protection

One of the bases argued by the Agency throughout this proceeding is that its denial is justified by Section 12(a) and

39(a) of the Act, which in conjunction direct that the Agency shall issue permits if an applicant proves that operation of a facility will not "cause or threaten or allow the discharge of any contaminants into the environment" [§12(a)]. In examining this ground, the testimony of Mr. Kuykendall is of particular importance.

Mr. Kuykendall has testified at various points concerning an evolving Agency policy, first applied here (R. 874-75), concerning technology

> "needed in terms of future hazardous waste landfill trench design, operational things, the management of liquids in landfills, what constitutes an adequate groundwater monitoring plan in terms of meeting the needs of the State of Illinois, versus what is required under the Federal Regulations under Subpart F, policy ramifications." (R. 750.)
>
> "The policy we are following is . . . [that a] hazardous waste land disposal facility . . . seeking new trenches or expansion within an existing facility, must be in compliance with the groundwater regulations before we can believe that they could go forward with permitting further trenches." (R. 840).

The question of what constitutes "compliance" is illuminated in Mr. Kuykendall's testimony concerning options available to the Agency once the old G and P well systems were determined to be inadequate:

> "The options the Agency had at that point were to, one, attempt to negotiate out a groundwater monitoring permit that would have in it a compliance schedule of the installation of wells . . . where we would in fact say the company had a groundwater monitoring system in place, that they would over time come into compliance with the Subpart F -- the groundwater monitoring regulations.
>
> Other options that existed at that time, still exist, are referral to the Board, Illinois Pollution Control Board, of an enforcement action; a third option is referring to the USEPA Region V office for issuance of federal administrative orders." (R. 835, emphasis added).

Mr. Barber explained that in a February 17, 1984 meeting (R. 1866-1868) at which Mr. Kuykendall was present, he or another Agency person explained to WMI that the Agency:

> "had an interest in having a permit go beyond merely installing and building wells, because this would expedite, for them, the ability to get these policies related to remedial action codified, relative to rule making.

> We had a brief discussion about the problems of rule-making in the state, and the fact that that takes many months, and they felt that a permit such as the one they outlined would in fact be an advancement in the way of assuring environmental protection, and that it would be of big benefit to them if we in fact could agree to a permit of that type***" (R. 1870).

Mr. Kuykendall has also testified that at the time of the permit denials he did not believe there was an enforceable monitoring system in place, because of WMI's appeal (R. 841-42). The Board notes that this assumption is incorrect. Appeal of a permit does not extinguish it. The contested conditions of this permit were never stayed by Board Order, or by operation of law.

The Board cannot find that Sections 12(a) and 39(a) authorize the Agency's issuance of the groundwater permit with all of its conditions, or justify its denial of the Trench 11 and supplemental waste stream permits. This is because a) the Agency's "policymaking" violates the separation of Agency/Board functions established in the Act, b) the "policy" upon which the Trench 11 permit was denied runs counter to the permit decision precedent established in a previous, never-appealed Board ruling, and c) the substitution of administrative action for enforcement as required by the Act acts in derogation of the rights of the permittee and the public, and in fact infringes upon the ability of the Agency to function effectively.

As WMI argues (see WMI Brief, p. 60-65 and cases cited therein esp. at p. 62), this attempt to "expedite" promulgation of environmental standards cannot serve to justify denial of this permit. The legislature has vested the quasi-legislative power of rulemaking in the Board [Section 5, Title VII, see also Landfill, supra]. It has also dictated in Section 22.4(b) of the Act the path rulemaking not "identical in substance" to RCRA is to take. Lengthy as the "full dress" Title VII - IAPA rulemaking path may sometimes be, the legislature determined to insure full rights of participation by the public as well as by the regulated waste generators and waste disposers.

This type of "rulemaking" by the Agency is additionally infirm because it usurps legislative, as well as Board, prerogatives. Upon Agency request via the legislative process, the legislature has occasionally conferred quasi-legislative powers upon the Agency as, for instance, in its creation of the short-term (45 days, with a possibility to renew for 45 days) provisional variance mechanism contained in Sections 35(b), 36(c), and 37(b). Such delegations are usually severely circumscribed; the policy which the Agency has attempted to implement in exercise of "its sole discretion" has unusually broad potential applications and ramifications on the waste disposal policy and practices of this state.

To put it simply, were the Board to allow the Agency to itself determine what constitutes groundwater monitoring compliance for sites which have accepted wastes pre-RCRA, and to validate denial of additional operating permits on the sole basis of that Agency determination, Illinois could find that it had de facto issued a shut-down order for all existing hazardous waste sites once their current, permitted disposal capacity is exhausted.

Specifically, ESL is currently not operating due to the instant dispute, being de facto in a post-closure monitoring mode. It is generally agreed that all landfills will leak at some time in the future. The RCRA Act and the RCRA rules promulgated by USEPA and the Board acknowledge the deficiencies of what were the "state of the art" disposal practices of the past and have imposed tougher new design and operation standards which have a focus on management of leaking contaminants as well as on "entombing" them so as to minimize leakage. It is agreed that Trench 11 meets these standards. It is designed and intended to be operated to minimize introduction of liquid into the trench. It is designed with a system to collect leachate, to bring it out of the trench rather than merely to contain it in the trench. The trench is not operating, so that if there were currently contamination at the site, Trench 11 is obviously not its cause. But groundwater "compliance" has been questioned under the Agency's policy.

Based on a determination of non-compliance, and given the Section 12(a) prohibition against causing or allowing pollution, the argument is that no permit should issue. If Trench 11 never accepts waste, Trench 11 can never contribute to the leakage which can be anticipated from some of the older portions of the site. Thus, failure to permit will ensure that there is never pollution from this source. However, based on this record, the Board cannot allow such a policy to gain a foothold.

In its resolution of the Frink's case, the Board had previously determined that permit issuance was mandatory upon proof that a particular portion of a facility--there above-ground storage tanks--would not cause pollution. Here, as in that case, the Board can find no factual nexus, or linkage, suggesting that there is some specific and particular previous design or operation aspect of Trenches 1-10 and the codisposed area--as opposed to any general objection based on their mere existence--which indicates that Trench 11 has not been designed or will not be operated to meet RCRA standards.

Again, in Frink's, the Board found that permit denial could not take the place of an enforcement action revoking permits to close a facility about which the Agency had groundwater concerns related to other, closed, portions of the facility. Finding repetition of the same error in this case, the Board is constrained to add to its previous comments.

Enforcement by permit denial, in addition to cutting off the participation rights of elected officials, the public, and the permittee, eliminates the Agency's Section 39(i) statutory right to deny permits based on the operator's prior history of violations as established through a record of enforcement actions. [Agency documents in this record establish that at least one employee considered and rejected this approach, assumably for lack of a "paper trail" (Resp. Exh. 23, p.3--no Bates #)].

The attempted use of compliance orders as a substitute for enforcement also has dangers in addition to elimination of public participation rights, and placement of Phase II RCRA authorization in jeopardy. When the Agency reserves to itself the sole discretion to define and order a remedy without either the right of permit appeal or finding of violation by this Board, it is shifting to itself the accountability that should rest with the permittee. What if the permittee complies with a remedial strategy solely dictated and approved by the Agency, and an environmental upset occurs? At that point, what forum exists in the Environmental Protection Act for its resolution, and by whom? On what grounds can the Agency bring an enforcement action against the permittee? It is the Agency, not the permittee, that has used its sole discretion to define the remedial strategy; the permittee is merely following Agency orders. In issuing the permit, the Agency has pre-approved its own actions and assumed responsibilities, as well as rights, placed on the permittee.

The Board notes that the Agency has often recognized this danger, as when, for example, it distinguishes its activities from that of a consultant engineer or any other role that might be construed as shifting the responsibilities of the permit applicant to itself.

In conclusion, the Board does not question the Agency's good intentions. However, the Board will not uphold permit conditions or permit denials that short-circuit public and private rights clearly established in the Act. The Board believes that such attempts serve to prolong, rather than to "expedite", environmental protection efforts.

Finally, based on the obvious need to achieve a speedy resolution of this matter and to clear the path for appeal, the Board will truncate the 35 day reconsideration period of 35 Ill. Adm. Code 103.240-241. Any motions for reconsideration shall be filed on or before October 12, and responses thereto filed on or before October 22, to enable the Board to take action on any such motions at its October 25 meeting.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

1. The Agency's permitting decisions concerning Permit 1984-16-SP, issued March 2, 1984, are affirmed in part and reversed in part. The permit is remanded to the Agency. Within 45 days of the date of this Order, the Agency shall issue a revised permit, striking Special Conditions 14, 16, 17, and Special Attachment B in their entirety, and amending Special Conditions 12 and 13 and Attachment A, Conditions 2, 3, 4, and 5 consistent with the above Opinion.

2. The Agency's April 20, 1984 denial of an operating permit for Trench 11, and its April 30, 1984 denial of about 599 supplemental wastestream authorization permits is reversed. The Agency shall issue these permits within 45 days of the date of this Order.

3. The September 10, 1984 motion to vacate the hearing officer's order granting intervention is granted.

4. Petitioner's various motions for default are denied.

IT IS SO ORDERED.

J. D. Dumelle was not present.

B. Forcade dissented on Paragraph 3 of the Order, and concurred in the balance of the Opinion and Order.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Paragraphs 1, 2, and 4 of the Order were adopted on the 1st day of October, 1984 by a vote of 5-0, and that Paragraph 3 of the Order was adopted by a vote of 4-1.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board

Illinois Environmental Protection Agency 2200 Churchill Road, Springfield, IL 62706

217/782-9882

Refer to: Site No. 19704502 - Will County
Joliet/ESL
Permit No. 1984-16-SP

March 2, 1984

Waste Management, Inc.
Environmental Sanitary Landfill, Inc.
Route 1, Box 109, Laraway Road
Elwood, Illinois 60421

Gentlemen:

Supplemental permit is hereby granted to Waste Management, Inc. to modify the groundwater monitoring program all in accordance with the application and plans prepared by Stanley A. Walczynski, P.E., dated December 28, 1983 and received by the Agency on December 29, 1982, and additional information received February 2, 1984, February 8, 1984, February 13, 1984, February 14, 1984, February 15, 1984 and February 21, 1984. This supplemental permit is further subject to the following special conditions:

1. Your groundwater monitoring program is hereby approved in accordance with Attachments A and B, and is subject to the conditions contained therein. All required groundwater monitoring points shall be installed such that groundwater samples may be taken during April or May, 1984 and results submitted to the Agency by July 15, 1984.

2. Within sixty days of installation of any monitoring point, boring logs, as-built diagrams, and field reports of well development shall be submitted to the Agency. As built diagrams, for each monitoring point installed, shall include the type and inner diameter of casing material used, type and length of screen, packing material used, type and length of seals used, type of backfill used, finishing details, groundwater levels, elevation of the top of casing, ground surface elevation, bottom elevation, interval screened, and depth. All surface elevations are to be measured to the nearest 0.01 foot and reported rounded to the nearest 0.1 foot. All internal well elevations and levels are to be measured and reported to the nearest 0.1 foot.

3. If replacement of any monitoring point becomes necessary, the Agency shall assign a new designation to the point. Agency designations are not transferable. Replacement or inclusion of a new or additional monitoring point into the monitoring program is a modification of the facility permit and thus requires a supplemental permit prior to inclusion into the plan. The permittee may install monitoring points for internal use, but later incorporation into the monitoring program permitted therein is subject to Agency approval.

4. All borings not utilized as monitoring points shall be backfilled with expanding concrete or a bentonite and soil mix. Details for bore hole plugging are to be submitted to the Agency with as-built diagrams.

5. For the proposed wells or any replacement wells, the annular space (the space between the bore hole and the well casing) above the top of the screen must be sealed with a suitable material (e.g., expanding cement grout or bentonite) to within four feet of the surface to prevent contamination of samples and the groundwater. An expanding concrete plug shall be placed from four feet below the surface to a point above the ground surface and be sloped away from the well casing so that surface water will be diverted away from the well casing and bore hole. All other aspects of proposed wells G111 through G151 or any replacements wells shall be constructed in accordance with "Schematic of Construction Planned for the Uppermost Aquifer Monitor Wells at ESL", February, 1984. However, screen length shall not exceed 30 feet. All other aspects of proposed wells GT10 through GT14 or any replacements shall be constructed in accordance with "Schematic of Construction Planned for the Till Monitor Wells at ESL", February, 1984.

6. Sampling equipment, either a bailer or submersible pump system (Well Wizard), shall be dedicated to each monitoring point in Attachment A, special condition 1.

7. Upon installation all monitoring points in Attachment A, special condition 1 shall be pump tested to determine permeability, K, and transmissivity, T, of the screened internal. Test method used and results shall be submitted to the Agency with items requested in special condition 2 above.

8. The portion of the well casing, extending above the ground surface, must be protected to minimize damage or tampering.

9. Wells shall be easily visible and identified with Agency monitoring point designation.

10. All monitoring points shall be maintained such that a sample may be obtained.

11. The G series wells, G101, G102, G103, G104, G105, G106, and G107, shall be plugged and abandoned as follows:

    a. Remove protective casing pipe and cap assembly.

    b. Drill/Auger out the well casing down to the top (± 2 foot) of the gravel outwash or dolomite bedrock should that be the strata below the clay till.

c. Fill and plug the hole with an expanding cement and bentonite grout to 2 feet below grade.

d. Fill the remainder of the hole with soil, flush with grade.

12. The P Series wells, P1, P2, P3, P4, P5, P6, P7, and P8, shall be maintained, sampled, and analyzed in accordance with special condition 13 below and with Attachment A.

13. As a part of the current groundwater quality assessment program, the P-series wells and the one new aquifer well of Attachment A, special condition 1 closest to each P-well, shall be sampled and analyzed for the hazardous waste constituents contained in 40 CFR Part 261, Appendix VII. The following analytical methods shall be used: Organics, method 8240 and method 8250; Cyanide, method 9010; Mercury, method 7470; all other metals should be analyzed by the applicable method in "Section 7, Test Methods for Evaluating Solid Waste, SW-846". The method detection limit for these methods shall be used. The current assessment report due date of March 1, 1984 is extended to July 15, 1984, in order that the above data can be evaluated as part of the assessment.

14. Until such time as the permittee receives a Part B permit for the facility all Interim Status provisions of Title 35 Illinois Administrative Code, Subtitle G, Section 725, Subpart F apply.

15. Permittee shall notify the Agency of any changes from the information submitted to the Agency in its application for a Development and Operating permit for this site. Permittee shall notify the Agency of any changes in the names or addresses of both beneficial and legal titleholders to the herein-permitted site. Such notification shall be made in writing within fifteen (15) days of such change and shall include the name or names of any parties in interest and the address of their place of abode; or, if a corporation, the name and address of its registered agent.

16. This Agency reserves the right to require installation of additional monitoring devices, to alter the selection of parameters to be analyzed and to alter monitoring frequencies as may be necessary to fulfill the intent of the Illinois Environmental Protection Act.

17. This permit is subject to review and modification by the Agency as deemed necessary to fulfill the intent and purpose of the Environmental Protection Act. and all applicable environmental rules and regulations.

Except as modified in the above documents, the site shall be developed and operated in accordance with the terms and conditions of Permit No. 1972-21, dated March 27, 1972, as revised November 18, 1981 and all subsequent supplemental permits.

All certifications, logs, or reports which are required to be submitted to the Agency by the permittee shall be mailed to the following address:

Illinois Environmental Protection Agency
Compliance Assurance Unit
Compliance Monitoring Section
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:LJK:bjh/sp/0444D/1,4

cc: Northern Region
Compliance Monitoring Section (2)
Dr. Yaron Sternberg, P.E.
Division File

Refer to: Site No. 19704502 - Will County
Joliet/ESL
Permit No. 1984-16-SP

March 2, 1984

ATTACHMENT A
WATER MONITORING PROGRAM

1. The following monitoring points shall be included in the water monitoring program for the facility:

Applicant Designation	Agency Designation
*G111 (W116)	*G111
*G112 (W117)	*G112
*G113	*G113
*G114	*G114
G115	G115
G116	G116
G117 (W114)	G117
G118	G118
G119	G119
G120	G120
G121	G121
G122 (W106)	G122
G123	G123
G124	G124
G125	G125
G126	G126
G127	G127
G128	G128
G129	G129
G130	G130
G131	G131
G132	G132
G133	G133
G134 (W118)	G134
G135	G135
G136	G136
G137	G137
G138	G138
G139 (W111)	G139
G140	G140
G141	G141
G142	G142
G143	G143
G144 (W112)	G144
G145	G145

Applicant Designation	Agency Designation
G146	G146
G147	G147
G148	G148
G149 (WT09)	G149
G150 (WT08)	G150
G151	G151
$G210 (WT07)	$GT10
$G211	$GT11
$G212	$GT12
$G213 (WT04)	$GT13
#$G214	#$GT14

Proposed well G214 (GT14) shall be relocated within 50 feet of well G111.

*Denotes upgradient monitoring well.
$Denotes till monitoring well.
#Denotes background till monitoring well

2. The following existing monitoring points shall be used as described below to obtain data for the current assessment, before they are abandoned and plugged:

Applicant Designation	Agency Designation
P1	P1
P2	P2
P3	P3
P4	P4
P5	P5
P6	P6
P7	P7
P8	P8

For the April or May, 1984 sampling, analyze samples from each of the above monitoring points for the constituents listed in Appendix VII of 40 CFR Part 261 as detailed in Item 13 of this permit letter. The new aquifer well closest to each P-well shall also be sampled and analyzed for the constituents in Appendix VII. This data shall be submitted as part of the assessment plan report due July 15, 1984.

Upon submission of this assessment report, and determination and acceptence by the Agency that the facility has not affected the groundwater, the P-series wells shall be decommissioned, abandoned and plugged according to the procedure described in Special Condition 11 of the permit letter. Those P-wells determined to be affected by the facility shall be included in further assessment of groundwater quality.

The concentrations or values of the parameters in Special Condition 3 in water samples from the monitoring points above shall be determined during April or May, 1984 and reported to the Agency by July 15, 1984.

3. To establish initial water quality for the monitoring points described in Special Condition 1 of this attachment, the concentrations or values of the following parameters in the water samples shall be determined and reported quarterly during the first year.

Alkalinity (total as $CaCO_3$)
Arsenic (As)
Boron (B)
Calcium (Ca)
Chromium (Cr) (total)
Fecal Coliform Bacteria
Lead (Pb)
Manganese (Mn)
Nickel (Ni)
*pH (Field Measured)
Potassium (K)
Residue on Evaporation (180°)
Selenium (Se)
Sodium (Na)
Zinc (Zn)
Gross Alpha
Lindane
Radium, Total
*Total Organic Halogen (TOX)
2,4-D
Copper

Ammonia (N)
Barium (Ba)
Cadmium (Cd)
Chloride (Cl)
Cyanide (CN)
Fluoride (F)
Magnesium (Mg)
Mercury (Hg)
Nitrate-Nitrite (N)
Phenol (Unfiltered)
Silver (Ag)
Sulfate (SO_4)
Endrin
Gross Beta
Methoxychlor
*Total Organic Carbon (TOC) (Unfilterec
Toxaphene
2,4-5,T (Silvex)
*Specific Conductance (SC)
(Field Measured)
Iron (Fe)

Specific Organics

Benzene
1,1 Dichloroethane
1,2 Dichloroethane
Ethylbenzene
Ethyl Acetate
Methylene Chloride
Toluene
1,1,1 Trichloroethane
Trichloroethylene
Trichlorofluoromethane
Methyl Ethyl Ketone
Tetrachloroethylene
Xylene

*Denotes four replicate measurements required for the upgradient monitoring wells.

Upon the completion of the first four quarters (first year), the background value (mean) and variance of each parameter shall be calculated for the upgradient monitoring wells, and reported to the Agency. Values for Wells G111, G112, G113 and G114 shall be averaged to yield one background value for each parameter according to the formula $\bar{X} = \sum_{i=1}^{n} \frac{Xi}{n}$ where n = 64 for the parameters requiring replicate values at the upgradient wells.

4. After initial water quality has been established, each of the monitoring points described in Special Condition 1 of this attachment shall be sampled quarterly and the samples analyzed for the following parameters:

*pH (Field Measured)
*Total Organic Halogen (TOX)
*Total Organic Carbon (TOC)(Unfiltered)
*Specific Conductance (SC) (Field Measured)

Specific Organics

Benzene
Methyl Ethyl Ketone
Methylene Chloride
Tetrachloroethylene
Toluene
1,1,1 Trichloroethane
Trichloroethylene
Xylene

*Denotes four replicate measurements required semi-annually and singular measurements for the alternate two quarters beginning with the results due July 15, 1985 for monitoring points G111 through G151.

In addition to the parameters specified above, the till wells shall be sampled and analyzed for the following parameters quarterly beginning with the results due July 15, 1985:

Boron
Chloride
Sulfate

Specific Organics

1,1 Dichloroethane
1,2 Dichloroethane
Ethylbenzene
Ethyl Acetate
Trichlorofluoromethane
Tetrachloroethylene

The above lists may be modified based on the results of first year initial quality sampling in Special Condition 3 above. Notification of a change in this list may be made by the Agency in a supplmental permit.

In accordance with 725.192 all monitoring points in special condition 1 above shall be sampled and analyzed annually beginning with the results due July 15, 1985 for the following parameters:

Chloride
Iron
Manganese
Phenols
Sodium
Sulfate

Monitoring points G115 through G151 shall be compared individually to the mean of G111 through G114. The following statistical procedure shall be used each quarter in determining whether background values of pH, TOX, TOC, and specific conductance have each been exceeded:

A. If the background value has a sample coefficient of variation less than 1.00, the mean of the concentrations of each of the above parameters at each monitoring point shall individually be compared to that parameter's background value to determine whether the difference is significant at the 0.01 level using the Cochran's Approximation to the Behrens-Fisher Student's t-test as described in Appendix IV of 40 CFR 264. If the test indicates that the difference is significant, the permittee must either (1) repeat the same procedure (with at least the same number of portions as used in the first test) with a fresh sample from the monitoring well, or (2) use an equivalent statistical procedure for determining whether a statistically significant change has occurred. If this second round of analyses indicates that the difference is significant, the permittee must conclude that a statistically significant change has occurred. Such an alternate statistical procedure must reasonably balance the probability of falsely identifying a non-contaminating unit and the probability of failing to identify a contaminating unit in a manner that is comparable to that of the statistical procedure described above and must be approved by the Agency prior to submission of the first quarterly analyses evaluated by this procedure.

B. If the background value has a sample coefficient of variation greather than or equal to 1.00, the permittee must use a statistical procedure providing reasonable confidence that the migration of hazardous constituents from the facility into and through the aquifer will be indicated. The statistical procedure shall:

i. be appropriate for the distribution of the data used to establish background values; and

ii. provide a reasonable balance between the probability of falsely identifying a non-contaminating unit and the probability of failing to identify a contaminating unit.

iii. be submitted to the Agency for approval prior to the first quarterly analyses evaluated by this procedure.

5. For all monitoring points the schedule for sample collection and submission of subsequent quarterly water monitoring results is as follows:

Results Due to the Agency by:	Samples to be Collected During the Months of:
15th of January	October -- November
15th of April	January -- February
15th of July	April -- May
15th of October	July -- August

6. Wells G111 through G151 in Special Condition 1 above shall have a minimum of three well volumes of water removed prior to sampling. A minimum of one well volume of water shall be removed from wells GT10 through GT14 prior to sampling. Wells GT10 through GT14 may be sampled over 3 consecutive days if enough sample cannot be obtained for all required analyses immediately after till well evacuation.

7. The following items A through C shall be determined each time a sample is obtained and item D shall be determined annually beginning July 15, 1984, and shall be reported with the analysis:

A. Elevation, as referenced to mean sea level (MSL), of the groundwater surface at each monitoring well. This determination is to be made prior to any water being withdrawn from the monitor well. These elevations shall be measured and reported to the nearest 0.1 foot.

B. The temperature of the water sample.

C. The height of the stick-up. This is the measurement of the length of casing extending above the ground surface.

D. Depth to the bottom of the well, as measured from the top of the casing.

8. The enclosed water monitoring instruction packet must be utilized in sampling and reporting under your approved water monitoring program.

9. Groundwater flow rate and direction in the uppermost aquifer shall be determined annually and reported with the monitoring results due July 15, 1985 and every year thereafter.

10. Deep aquifer wells W120 and W121 shall be maintained such that a sample can be obtained.

If you have any questions concerning Attachment A, please contact Linda Kissinger at 217/782-6762.

LJK:bv/sp/0330D/1-7

cc: Compliance Monitoring Section
Northern Region
Dr. Yaron Sternberg

Illinois Environmental Protection Agency 2200 Churchill Road, Springfield, IL 62706

Refer to: - Will County
Joliet/ESL
Permit No.: 1984-16-SP

March 2, 1984

ATTACHMENT B
COMPLIANCE SCHEDULE

1. The following criteria shall cause the facility to implement a groundwater quality assessment program.

   A. For the till monitoring wells:

      a) During the first year when background quality is being established, the detection of one or more of the specific organic constituents (greater than or equal to 10 ppb) in wells GT10, GT11, GT12, or GT13 and the presence verified by an immediate resampling and analysis, or any of the constituents exceed the Water Quality Standards for Underground Waters (Sec. 303.203 or 303.201) in these wells and not in the background well (GT14), or the concentration of any of the constituents in wells GT10, GT11, GT12, or GT13 is significantly higher than the concentration of that constituent in the background well (GT14).

      b) In succeeding years, the detection of one or more of the specific organic constituents (greater than or equal to 10 ppb) in wells GT10, GT11, GT12, or GT13 and the presence verified by an immediate resampling and analysis.

   B. For the aquifer monitoring wells.

      a) During the first year when background quality is being established, the detection of one or more of the specific organic constituents (greater than or equal to 10 ppb) in any downgradient wells (G115 through G151) and the presence verified by an immediate resampling and analysis, the concentration of any of the constituents exceed the Water Quality Standards for Underground Waters (Sec. 303.203) in the downgradient wells but not in the upgradient wells, or the concentration of any of the constituents in any downgradient well is significantly higher than the concentration of that constituent in the upgradient wells.

      b) In succeeding years, a statistical increase (or decrease in the case of pH) in the value of one or more of the indicator parameters in the downgradient wells or the detection of one or more of the specific organic constituents (greater than or equal to 10 ppb) in any downgradient well.

2. The Agency shall be notified within seven days of the confirmation of a statistical change in the downgradient wells, the presence of organic constituents (greater than or equal to 10 ppb) in the downgradient wells, the concentration of any constituent(s) that exceeds the Water Quality Standards for Underground Waters (Sec. 303.203) in the downgradient wells but not in the upgradient wells, or the concentration of any constituent that is significantly higher than the concentration of that constituent in the background wells, that the facility may be affecting the groundwater (Section 725.193(d)(2)).

3. A groundwater quality assessment plan shall be submitted to the Agency within 15 days of the above notification (Section 725.193(d)(2-5)).

4. The Agency shall approve as submitted, approve with modification, or disapprove with reasons for disapproval, the groundwater quality assessment plan. If approved as submitted or approved with modification, the plan shall be initiated within 30 days of notification. If disapproved, the plan shall be corrected in accordance with reasons for disapproval, and resubmitted within 15 days.

5. In addition to the requirements of Section 725.193(d), the following shall apply:

   A) The program shall be capable of determining the location within the facility of the source affecting groundwater.

   B) The assessment shall include a risk assessment including:

      a) the population at risk (i.e. potentially affected residential wells);
      b) amount of substance(s);
      c) hydrogeoligic factors;
      d) climate;
      e) hazardous or toxic properties of the substance(s); and
      f) environmental factors

   C) If the groundwater quality assessment program determines that there is no impact to groundwater quality from the facility, monitoring shall return to detection monitoring.

   D) The assessment shall address any change in the background water quality over time.

6. Upon submission of the results of the approved groundwater quality assessment program, the Agency shall determine whether such results indicate that there may be a violation of Section 12(a) of the Act or whether such results demonstrate a risk of harm to public health or

the environment. If the Agency finds that such a violation may exist or that such a risk has been demonstrated, it shall direct the Permittee to submit an engineering feasibility plan for corrective action to the Agency within 120 days.

A. This engineering feasibility plan for corrective action shall, at a minimum, address the following items:

a) Review and confirmation of the risk assessment;

b) Source control, and/or removal or in situ treatment of hazardous waste constituents in the groundwater;

c) Short and long term methods for providing an alternate source of drinking water for affected water supply wells;

d) Establish performance objectives for corrective action;

e) Details and specifications of the corrective action with an emphasis on use of established technology;

f) Evaluation in terms of engineering implementation or constructability;

g) Assessment of the extent to which the corrective action is expected to effectively mitigate and minimize damage to and provide adequate protection of public health, welfare and the environment;

h) Analysis of any adverse environmental impacts and methods for mitigating these impacts;

i) Groundwater monitoring program to demonstrate the effectiveness of the corrective action;

j) Provisions for reporting the status of the corrective action;

k) Listing of local, state, or federal permits necessary to carry out the corrective action;

l) The need for phasing the corrective action to insure that the implementation is not unnecessarily delayed (e.g., source control actions could be taken in conjunction with further assessment of the groundwater);

7. If the current groundwater quality assessment determines the facility is affecting groundwater the permittee shall within 60 days meet the requirements of special condition 5 and, if necessary as determined by the Agency, subsequent special conditions of this attachment.

8. The Agency shall approve as submitted, approve with modification, or disapprove with reasons for disapproval, the engineering feasibility plan for corrective action. If approved as submitted or approved with modification, the plan shall be initiated within 30 days of notification. If disapproved the plan shall be corrected in accordance with the reasons for disapproval, and resubmitted within 30 days.

9. Corrective actions may be terminated when the corrective action performance standards have been met for three consecutive years. The detection monitoring program in Attachment A shall then be reinstated.

10. The provisions and requirements of special conditions 5 through 9 of this Attachment B shall not become effective until the effective date of an Agency permit to operate Trench 11.

LJK:bv/sp/0330D/8-11