BEFORE THE POLLUTION CONTROL BOARD

OF THE STATE OF ILLINOIS

IN THE MATTER OF:	)
	)
Steel and Foundry Industry Waste Landfills:	)
Amendments to 35 Illinois Administrative	)No. R96-3
Code 817.309 (Facility location for	)
Landfills Accepting Potentially Usable	)
Waste.	)

The following is a transcript of a hearing held in the above-entitled matter, at James R. Thompson Center, Room 9-040, 100 West Randolph Street, Chicago, Illinois, on the 24th of June, 1996 A.D., commencing at the hour of 10:30 o'clock a.m.

BEFORE:

HEARING OFFICER AUDREY LOZUK-LAWLESS

ALSO PRESENT:

Mr. Ronald C. Flemal, Ph.D., Board Member
Mr. Anand M. Rao, Environmental Engineer
Scientific/Technical Section

APPEARANCES:

Mr. James T. Harrington
Mr. Charles W. Wesselhoft
Ross & Hardies
150 North Michigan Avenue
Chicago, Illinois 60601
on behalf of ICMA;

APPEARANCES:

Ms. Judith S. Dyer
Assistant Counsel
Bureau of Land
Division of Legal Counsel
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276
appeared on behalf of the IEPA;

Also Present:

Mr. Christopher S. Peters
RMT, Inc. - Lansing
2178 Commons Parkway
Okemos, Michigan 48864-3986

Mr. Michael P. Slattery
Vice President/Program Manager, Metals Industry
Board of Directors of ICMA
Residuals Management Technology, Inc. - Chicago
999 Plaza Drive - Suite 370
Schaumburg, Illinois 60173-5407

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Mr. Kenneth E. Smith, P.E.
Permit Section
Bureau of Land

Mr. Kenneth Liss
Manager - Groundwater Assistance Unit
Bureau of Land

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HEARING OFFICER LOZUK-LAWLESS: I'd like to say good morning to everyone. My name is Audrey Lozuk-Lawless and I would be the Hearing Officer in this matter.

The matter is currently entitled: In The Matter of Illinois Cast Metals Association, Proposed Amendment for Existing Landfills Accepting Potentially Usable Steel or Foundry Industry Waste at 35 Illinois Administrative Code 814.902, Standards for Operation and Closure.

On behalf of the Board is Board Member Dr. Ronald Flemal sitting on my left.

And on my right is from our Technical Unit, Anand Rao.

This hearing will, of course, be governed by the Board's Procedural Rules for regulatory hearings. Any evidence which is relevant and not repetitious will be entered. All witnesses will be sworn and subject to cross-questioning.

This proposed rule was filed by the Illinois Cast Metals Association, ICMA, particularly at issue in this rulemaking is their revised petition which was filed on February 26, 1996.

At today's hearing the ICMA will first present their witnesses. We have pre-filed testimony from Mr. Michael Slattery and, as well, from Mr. Christopher Peters.

We will enter those into the record as exhibits. However, you can, of course, go ahead and give your testimony.

Questioning of those witnesses, then, will take place, and any other witnesses that you would like to put on, on behalf of ICMA.

Anyone may ask a question of any witness during the questioning period. If you could just please raise your hand and I will acknowledge you to speak up loudly so our court reporter can hear you.

If you would, then, enter your name, asking your question and then the organization that you represent.

Please note that any questions that are asked by Dr. Flemal or Mr. Rao, or myself, are not meant to express any preconceived notion or bias, but only to make a complete record for any Board Members that are not currently here.

After that -- ICMA has presented their witnesses -- anyone on behalf of the Illinois Environmental Protection Agency may then give their testimony. We currently have pre-filed testimony from Mr. Kenneth Liss.

And, just to note, we have one additional hearing in this rulemaking which will be held in Edwardsville on Wednesday at 10:00 o'clock.

Okay. So, now, we'll turn to the ICMA's proposal.

And, Mr. Wesselhoft, would you like to give any opening remarks?

MR. WESSELHOFT: My name is Chuck Wesselhoft. I'm with the law firm Ross and Hardies and I represent the Illinois Cast Metals Association.

With me at the table here is Jim Harrington also with Ross and Hardies, Mike Slattery of RMT who is a Board Member of ICMA, and, also, Chris Peters with RMT.

What we plan to do today is to present a case that will allow the siting of potentially usable waste landfills over certain types of Class 1

groundwaters. And Mike Slattery will present testimony concerning the reasons behind the need for it. And Chris Peters will present some justification for that.

At this point, we'll move ahead with Mike Slattery.

HEARING OFFICER LOZUK-LAWLESS: If you could please swear in the witness?

(The witness was sworn.)

THE WITNESS: Good morning. My name --

MR. WESSELHOFT: Sorry.

MICHAEL P. SLATTERY

called as a witness, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. WESSELHOFT:

Q. Would you state your name for the record, please?

A. Michael Slattery.

Q. Would you state your position?

A. I'm currently vice president with RMT, Inc.

Q. Would you state your association with ICMA?

A. I am currently on the Board of Directors for

the Illinois Cast Metals Association and also past executive director.

Q. I have here a document entitled testimony of Michael Slattery. Is this, indeed, your testimony?

A. Yes, it is.

Q. Is it true and correct?

A. Yes.

Q. Are there any corrections or additions you would like to make to it?

A. No.

Q. Okay. Would you proceed with reading it, please?

A. Okay. Over the past twenty years, Illinois landfill rules have evolved from very basic prohibitions against open dumping to the current very complex rules designed to protect groundwater quality.

The first significant thrust in the direction of groundwater quality protection was in the R88-7 rulemaking.

Prior to that rulemaking, the Part 807 rules had required sanitary landfills to have in place adequate measures to monitor and control leachate and

required that an operator prove to the Agency that the landfill would not damage or create a hazard in the waters of the State.

The 88-7 rulemaking was a broad brush remedy for the inadequacy of the Part 807 Rules, Groundwater Protection Scheme. It set up three classes of landfills and defined design and performance standards for each class that would protect groundwater, based on the types of authorized waste deposited into them.

The rulemaking also introduced the concept that the degree of stringency of substantive operating requirements should be directly related to the type of waste placed in the landfill. This was in recognition of the fact that disposal of different wastes result in the generation of leachates which present a greater or lesser threat to groundwater.

The Illinois Cast Metals Association (ICMA) participated in the R 88-7 Rulemaking and attempted to make a case for special consideration for foundry industry monofills based on the nature of the waste generated by foundries.

The final R 88-7 Part 811 rule, did not

include the requested relief, but did provide the ICMA with an opportunity to file a new rulemaking petition specifically tied to the foundry industry monofilled situation.

The ICMA, in conjunction with the Illinois Steel Group, filed such a petition with the Board which resulted in the R 90-26 rulemaking.

In the R 90-26 rulemaking, the ICMA presented evidence concerning the nature of wastes generated by the ferrous foundry industry and succeeded in persuading the Board to adopt special landfill standards for the ferrous foundry industry, Part 817, that would allow the development and operation of monofills with design and performance standards significantly less stringent than those required for chemical waste landfills under Part 811 rules.

The evidence showed that the foundry industry waste are considerably more inert than chemical waste and that less stringent operating standards would be protective of the groundwater.

The main goal of the R 90-26 rulemaking was to provide a basis under which existing foundry

landfills could continue to operate and new ones could be designed, built and operated without unnecessary costs.

As originally proposed, the R 90-26 rules would have allowed existing Potentially Usable Waste (PUW) landfills to continue to operate with only minimal new restrictions: That is, final cover requirements, final slope and stabilization requirements, leachate sampling, low checking, and very limited locational limitations.

During the last round of R 90-26 hearings, it was pointed out that the Maximum Allowable Leaching Concentrations (MALCs) proposed for PUW in some cases exceeded the Illinois Class I groundwater standards.

It was suggested in pre-filed questions that since PUW landfills would have no liner, the potential existed for groundwater quality impacts if the PUW landfill leachate reached Class I groundwater.

During the last hearing on the proposed rulemaking, November 19, 1993, draft language was proposed to limit the location of PUW landfills to geological formations that do not directly communicate with Class I groundwater.

R 90-26, Exhibit 64, proposed Section

817.302, attached hereto as Attachment A.

During further questioning at hearing, it was agreed that ICMA would further revise the proposed siting criteria language.

A copy of the portion of the November 19th, 1993 transcript related to this issue is attached to this testimony as Attachment B.

ICMA revised the draft Section 817.309 language pursuant to the discussions of the hearing at hearing and submitted the new language as part of the ICMA final comments for the docket R 90-26.

A copy of those comments is attached hereto as Attachment C.

The Board determined that the new language represented a substantive amendment to the rulemaking which necessitated a return to first notice for that portion of the proposal.

This new docket was designated R 90-26(b).

In the Board's First Notice Opinion, additional questions were raised concerning the use of aquifers in the proposed siting standard. ICMA filed

First Notice comments that further revised the siting criteria. ICMA also made it clear in those comments that it believed the proposed siting criteria would apply only to new landfills.

ICMA stated: "For that reason, the proponents elected to propose limiting new PUW landfills to sites that are sufficiently separated either by distance or by impermeable geologic formations from any surrounding Class I or Class III groundwater." Attachment D, page 2.

ICMA believed that the language "shall be located," (Section 817.309(b)) denoted a future siting decision.

Subsequent to the adoption of the siting criteria in R 90-26(b), it has become apparent that the IEPA interprets Section 817.309(b) to apply to the continued operation of existing, as well as to the siting of new facilities. Rather than pursue this matter through the courts, the ICMA believes that the proposal to amend Section 817.309(b) will allow those PUW landfills to continue to operate without creating any potential threat to human health or the environment.

ICMA is aware of several facilities in current operation who have the potential to benefit from this proposal. It is also believed that there are several inactive landfills which, if the rule is changed, have the potential to re-open.

Finally, the proposed revision will allow new landfills to be sited in locations that are currently prohibited, even though a landfill would have no reasonable likelihood of adversely impacting downgradient groundwater users.

We have prepared disposal cost estimates for an average-sized boundary who: (1) sends its waste to an offsite landfill; (2) operates a chemical waste landfill; or (3) operates a PUW landfill. These are shown in Attachment D.

Of interest to this rulemaking is the difference between offsite disposal and disposal in a PUW landfill. That difference is shown on page 8 of Attachment E to be estimated at $1,327,560 per year per landfill.

In addition, diversion of PUW wastes to chemical waste landfills would reduce the capacity of

those landfills by hundreds of thousands of tons per year. ICMA believes the limited capacity of chemical waste landfills should be used for more difficult to manage and industrial waste which create a greater threat to the environment than does PUW.

An additional benefit to this rulemaking is the continued segregation of PUW from chemical wastes. Since the promulgation of Part 817 in July 1994, the Illinois Cast Metals Association (ICMA) has continued to work with regulators and the foundry industry to promote beneficial use of foundry sand materials. ICMA has held several seminars to promote the new rulemaking and educate the membership on protocol for becoming a beneficial use participant.

ICMA has additionally sought out new approaches to promote beneficial use on a statewide basis. One such approach was to meet with the Illinois Department of Transportation (IDOT) officials in the Bureau of Materials and Physical Research Division to seek their participation in utilizing foundry by-product materials or highway construction material. IDOT is considering a specification for foundry by-product material in

construction backfill and indicated that they will work with individual foundries to qualify materials for construction use.

ICMA has initiated a contract with the University of Illinois to conduct research on beneficial use of foundry materials for the potential use in improving the drainage of Illinois farm soils and the project is underway.

The research proposal from the university entitled: "Use of Foundry Green Sand to Improve the Physical Properties of Poorly Drained Soils," is attached as Attachment F and represents the scope of the project.

Substantial supplies of Potentially Usable Waste make it easier to convince a possible purchaser to consider the use of the material. ICMA believes the current rulemaking effort is necessary to promote continuation of PUW sites to assure a supply of construction materials when needed.

The ICMA proposal presents a method whereby existing PUW landfills may, regardless of the underlying groundwater quality, continue to operate as PUW landfills. The object of the current siting restriction

is to protect current and potential groundwater uses.

There exist situations where PUW landfills overlying Class I groundwater do not and cannot impact downgradient groundwater users. This proposal will allow the Agency to recognize that fact in its permitting decisions.

ICMA believes that the proposed revision will result in a net economic and environmental benefit to the State of Illinois. It will allow existing facilities to continue to operate and new facilities to be sited without seeking Board approval for each siting decision.

We urge the Board to adopt the proposed revision.

HEARING OFFICER LOZUK-LAWLESS: Thank you, Mr. Slattery.

Mr. Wesselhoft, would you like to move to have his testimony, plus all the additional exhibits that are attached, entered into the record?

MR. WESSELHOFT: Yes, I would.

HEARING OFFICER LOZUK-LAWLESS: So, then, what we will do is we'll mark Mr. Slattery's testimony, plus attachments, as Exhibit Number 1.

(Said document, heretofore marked Exhibit No. 1 for identification, was admitted into evidence, to wit, as follows:)

HEARING OFFICER LOZUK-LAWLESS: Mr. Wesselhoft, you can go ahead with your second witness.

MR. WESSELHOFT: Okay. You don't want to take questions now?

HEARING OFFICER LOZUK-LAWLESS: When both of them are finished, it will be easier.

And, Sally, you can swear in the witness.

(The witness was sworn.)

CHRISTOPHER S. PETERS,

called as a witness, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. WESSELHOFT:

Q. Would you state your name for the record?

A. Christopher Peters.

Q. What is your employer?

A. RMT, Inc.

Q. Could you give a brief synopsis of your

educational background?

A. I have a Bachelor's Degree in Geology from St. Lawrence University and a Master's Degree in Water Resources Management and Geology from the University of Wisconsin, Madison.

Q. What's the scope of your employment with RMT?

A. I am a Project Director for RMT in the Lansing, Michigan office.

Q. What's your specialty there?

A. Hydrogeology.

Q. I have here a document entitled the "Testimony of Christopher Peters, Hydrogeologic Testimony in Support of Proposed Rule Changes to Illinois Solid Waste Rules for Steel and Foundry Waste Landfills."

Is this your testimony?

A. Yes, it is.

Q. Is it true and correct?

A. Yes.

Q. Do you have any additions or changes that you would like to make to it?

A. No.

Q. Could you give us a brief synopsis of the

content of that testimony?

A. Yes.

I will read portions of this when it's expedient to do so, but there are some attachments that probably bear some discussion, so I will paraphrase some of the testimony.

The following testimony has been prepared in support of the proposed revision to 35 Illinois Administrative Code 817.309(b). This revision would allow the siting of Potentially Usable Waste (PUW) landfills over Illinois Class I groundwaters, if the owner or operator demonstrates that the unit will not adversely impact any existing Class III groundwaters and, that as a result to the unit's operation, no treatment or further treatment of the groundwater will be required to allow the reasonable use of a Class I groundwater for potable water supply purposes.

This testimony is intended to demonstrate there are certain hydrogeologic situations in which existing PUW landfills pose negligible potential for impacts to downgradient potable water supply wells or surface water. In such situations the applicant should be

allowed to site or continue to operate a PUW landfill if the above-described technical demonstration can be made.

There are a number of existing steel and foundry landfills which are located adjacent to a stream, river or lake. Because of the hydrogeologic conditions which exist in such circumstances, even if the landfill were to generate leachate containing MALC, the MALC for PUWs, which is very unlikely, the leachate would have no adverse impact on groundwater or surface water.

From here on in, I would like to paraphrase most of my testimony. I have two hydrogeologic scenarios which I would like to discuss.

In order to make this demonstration, the first scenario deals with a landfill, foundry or steel landfill located adjacent to a lake, stream or river. And we have first assembled flow and water quality data from a representative cross-section of streams and rivers in Illinois.

And the locations of these streams or rivers are indicated on attachments 1, 2, and 3 in your handout. The copy is not very clear. If anyone has any further questions on the locations of these, I can supply

that. However, the attachments do represent a good geographic distribution across the State.

And there is an attached Table 1, which includes stream flow and some representative quality data from each gaging station.

For each station, we've included the 90 percent exceedence flow, followed by the period of record. And we have chosen this flow because it was the closest to drought or base flow situation which is the most conservative scenario in terms of a potential water quality impact of an adjacent landfill.

As you can see from Table 1, the gaging system selected represents a good cross-section of stream discharges spanning several orders of magnitude of flow.

Table 1 also includes surface water quality data for two parameters that have been labeled as potential constituents of concern from PUW landfills, chloride and manganese. The maximum allowable leaching concentration, or MALC, for each of these constituents is greater than the respective Illinois Class 1 groundwater standard.

For this reason and because these

parameters may be expected to be in leachate generated from foundry and steel waste, it's appropriate to consider the potential impacts to groundwater due to leaching of these constituents.

The purpose of presenting the water quality data is to demonstrate that for some parameters the quality of the receiving water may be worse than the groundwater quality standard, or even worse than MALC for PUW landfills. The exemption should be allowed on the basis of water quality data alone in these cases.

Secondly, and more importantly, Table 1 is intended to demonstrate the tremendous dilution potential and hydraulic capture potential of even very small streams.

The final column in Table 1 shows the stream dilution ratio or the comparison of flow of the hypothetical contaminated groundwater into the stream versus the flow in the stream.

And in order to arrive at the ratios listed in the Table 1, the following conservative assumptions were made.

In each gaging station, a PUW landfill is

located adjacent to a river. The landfill is 40 acres is size and it's 1,320 feet on each side. And, of course, it's located above a Class I aquifer and is leaching contaminants into the aquifer, resulting in a groundwater contaminant plume which flows toward the river.

The aquifer parameters are as follows: A hydraulic gradient of 0.01. Hydraulic conductivity of 1 x 10 to the negative 2 centimeters per second, or approximately 30 feet per day.

The cross-sectional area of the plume is 100 feet in depth by 1,320 feet wide, which is, of course, the width of the hypothetical landfill, which is equal to 132,000 square feet.

This selection of these parameters is based on a conservative estimate of the depth of mixing in hydraulic conductivity in the aquifer and a reasonable value for hydraulic gradient based on experience in other similar settings.

This value was also used as a base case for the Illinois Cast Metals Association (ICMA) and RMT in a report entitled "Evaluation of Compliance with IAC 620 Groundwater Quality Standards for Proposed R 90-26,

Maximum Allowable Leaching Concentration," and the revised version was presented in September 1993 by RMT.

And, finally, in our assumptions, the discharge of contaminated groundwater to streams is treated as a point discharge, that is, as if it were coming out of a pipe.

Under these assumptions, the resulting ratios of groundwater to surface water indicate that the potential for groundwater impacts to surface water are minimal.

Even when stream flows are very low, the potential dilution from the stream is high. The only exception to this, the data from Slug Run in Bryant, is an extreme case which is theoretically impossible, since groundwater discharge could not exceed the stream flow.

The ratios of the groundwater to surface water flow themselves suggest that most, if not all of the potentially contaminated groundwater flow will be captured by the river.

Potential for impacts to potable water supplies that might be downgradient of a landfill near a river, as result of the effect of this hydraulic capture,

would likewise be minimal.

While it is possible for a stream or a river to recharge the surrounding groundwater in a vast majority of cases, the surface water body provides a hydraulic barrier to groundwater flow.

While it's not included in the attachments, I referenced a map of the glacial deposits in Illinois, called: "The Quaternary Deposits of Illinois by J.A. Lineback, 1979, Illinois Geological Survey."

This reference indicates that many of the Illinois river valleys contain glacial outwash deposits where the hydraulic relationship between groundwater and surface water as described above exists.

A second hydrogeologic setting that we've considered that might apply to a PUW landfill which is located sufficiently upgradient of any potential receptor wells is that any contamination expected to reach the groundwater from the landfill is further diluted by groundwater flow to a level where the receptor wells are not adversely impacted.

As in the discussion above, chloride and manganese are the two principal constituents historically

expected to be of concern with respect to leaching from PUW landfills.

The MALCs for other potential constituents that would leach from a PUW steel or foundry landfill are equal to or less than the applicable groundwater standard and, thus, these constituents would not normally be of concern to groundwater quality.

In evaluating the potential impacts of this second scenario we have, again, assumed a generic environmental setting as follows: First, a 40 acre landfill is described above, 1,320 feet on the side, that is leaching chloride and manganese at concentrations equal to their respective MALCs into the underlying aquifer.

For a base case, the aquifer parameters are as follows: Again, a hydraulic gradient of 0.01. Hydraulic conductivity of 1 x 10 to the minus 3 centimeters per second or approximately 3 feet per day.

An aquifer thickness or effective mixing depth of 10 feet and background concentrations of 100 milligrams per liter of chloride and 0.075 per liter manganese.

And these represent -- These

concentrations represent half of the respective groundwater quality standard for these parameters.

Next, the recharge rate of the contaminant is 3 inches per year, which is equal to the recharge through the surrounding land.

Next, the contaminant plume is, again, 1,320 feet wide, equal to the width of the landfill.

And total mixing of the leachate with the underlying groundwater is assumed.

The last assumption is, as the contaminant plume moves downgradient in the groundwater, it is diluted by recharge between the downgradient edge of the landfill and the compliance boundary, which is 100 feet from the edge of the waste.

This base case scenario was equivalent to that presented in RMTs 1993 report, "Evaluation of Compliance with IAC 620, Groundwater Quality Standards for Proposed R 90-26 Maximum Allowable Leaching Concentrations."

Note that the hydraulic conductivity in thickness or mixing depth of the aquifer is one order of magnitude less than the first scenario. We've done that

because this provides for a more conservative analysis, because reducing the mixing depth and hydraulic conductivity reduces the potential dilution capacity of the aquifer.

The output of this simple model is a predicted concentration of chloride and manganese of the boundary. And the results of this model are presented in Tables 2 and 3 which are included within the text of my testimony.

In addition to the base case presented above, we performed a sensitivity analysis to evaluate the effect of varying hydraulic conductivity recharge and mixing depth.

As Tables 2 and 3 indicate, compliance is achieved under most scenarios. Chloride concentrations are essentially in compliance under the base case scenario and reduced significantly with reductions in hydraulic conductivity.

Manganese concentrations are in compliance when the hydraulic conductivity are reduced to 1 x 10 to the minus 5 centimeters per second, which would still be considered a Class I groundwater in Illinois.

In both cases, hydraulic conductivity is the most sensitive parameter. And this is also consistent with what we found in our 1993 report.

A sensitivity analysis with recharge rates was also performed using 1 inch per year, 3 inches per year which is the base case, and 6 inches per year, because there is very little effect due to the change in recharge, the results aren't tabulated here. However, I have included the calculations on the attached computation pages.

And on page 9, we actually present Tables 2 and 3 showing the sensitivity analysis for hydraulic conductivity and mixing depths.

As noted in the proposed revision to Section 817.309(b), the landfill owner or operator has the responsibility to demonstrate "that the unit will not adversely impact any existing Class III groundwaters, and that, as a result of the unit's operation, no treatment or further treatment will be required to allow the reasonable use of a Class I groundwater for potable water supply purposes."

And ICMA believes that groundwater

modelling, similar to that employed in evaluating the two scenarios presented in the testimony, should provide the basis for this demonstration.

This will require the gathering of some site-specific data, such as groundwater quality and flow direction, soil profiles and hydraulic conductivity, plus any other relevant site-specific information that has the potential to impact contamination movement.

And the modelling results would be significant to the Agency in the permit application if the facility is permitted or in the initial facility report, if the facility is permit exempt.

Furthermore, in making the determination as to whether reasonable uses of Class I groundwater are prevented, it should be recognized that "reasonable" does not include those situations where future use of such groundwater is not likely due to the existence of one or more factors, such as physical or technological impracticability, existence of deed restrictions, et cetera, or where likely future use of such groundwater would not be impacted due to the nature and the use.

For example, industrial use for which

treatment would not be required or for which normal pretreatment incidental to such use would suffice.

The ICMA believes and the Illinois groundwater rules support the concept that landfills can be located over Class I groundwaters, provided that the applicant demonstrates that the groundwater downgradient of the landfill will not require treatment or further treatment for potable water supply uses and that Class III groundwater will not be adversely impacted.

We think that the Agency has the technical expertise to evaluate such situations and to take the necessary action to protect those groundwaters.

The language contained in proposed rule 817.309(b) should therefore be approved by the Board.

MR. WESSELHOFT: At this point, I would like to move for the inclusion of Mr. Peters' testimony into the record and exhibits.

HEARING OFFICER LOZUK-LAWLESS: Then the testimony of Mr. Christopher Peters will be marked as Exhibit Number 2 and entered into the record.

(Said document, heretofore marked Exhibit No. 2 for identification,

was admitted into evidence, to wit, as follows:)

HEARING OFFICER LOZUK-LAWLESS: Mr. Peters, I would ask, if you do have a clearer copy of Attachments 1, 2, and 3 at your disposal, if you could submit those to the Board to put into the record. That would be helpful.

MR. PETERS: Sure.

HEARING OFFICER LOZUK-LAWLESS: We just won't make copies of those. Thank you.

If there are any questions of either one of the ICMA witnesses, now, from the Agency, please?

MS. DYER: The Agency has no questions at this time.

HEARING OFFICER LOZUK-LAWLESS: No questions.

MR. RAO: Okay. I had a few questions for Mr. Peters.

I was asked to state my name.

Anand Rao from the Illinois Pollution Control Board. I am with the Technical Unit.

My first question deals with the proposed language which requires the demonstration from the owner or operator to show that Illinois would impact on Class III and Class I groundwater.

First, I just wanted to make it clear whether this demonstration has to be made to the Agency. I assume that. Yes?

Would it be acceptable if we changed the language here to say "that the owner or operator shall demonstrate to the Agency"?

MR. WESSELHOFT: I think that's acceptable.

MR. RAO: Okay. And the proposed language does not articulate what the demonstration entails. And I wanted to know if it was acceptable to ICMA if we state that what this demonstration entails, that the demonstration would require an analytical groundwater modelling, using site-specific hydrogeologic parameters like what's been stated in Mr. Peters' testimony?

MR. WESSELHOFT: I think, as long as it's close to what we've done before in the samples, I think we can accept that, yes.

We'll prepare some language for that.

MR. RAO: Okay. Are you going to prepare it?

MR. WESSELHOFT: Yes.

MR. RAO: Okay. Then I have a couple specific questions for Mr. Peters.

On page 3 of your testimony you state that in certain cases where the receiving surface water quality is worse than the groundwater quality standards, or the MALC, that such landfills should be provided an exemption from making demonstration, and the siting should be allowed based purely on the water quality criteria.

I wanted to know that, in a situation where the water quality criteria and water quality is already degraded, wouldn't it be better to protect such receiving waters from further degradation than to allow for the degradation of those receiving waters?

MR. PETERS: I'm not sure I agree that it would be further degradation.

If the groundwater quality of the water underneath the landfill is better than that which is the receiving water, there actually would be a net improvement.

MR. RAO: Yes, that I agree.

But in situations where the groundwater quality, itself, is close to the Class I standards and then you're leaching Potentially Usable Waste MALCs, and your testimony says when the quality of receiving water is

worse than the groundwater quality standards, are even worse than MALC, than an exemption should be allowed on the basis of water quality data. It was not clear to me why you don't want a demonstration to be made in such cases that show that the ratios are acceptable.

MR. PETERS: I'm not sure I understand what you are asking.

If that is a background situation, the background quality is worse than the leachate quality, it seems reasonable to expect that there ought to be an exemption.

And I don't know the procedural specifics.

MR. RAO: I understand.

If the background groundwater quality is higher than the leachate quality, than there's not much you can do. But if the surface water quality, the receiving water quality, is also degraded, then if you want to place a landfill right adjacent to the surface water, is what I'm trying to get at.

MR. PETERS: Provided that it doesn't adversely impact the surface water, there are many advantages to

putting landfills near discharge areas, one of which, being, that the groundwater flow is easily monitored then and easily controlled if there ever were a problem.

MR. RAO: Now, the point I was trying to make was just if the surface water quality is already degraded, do you want to add more to it or not?

MR. PETERS: Maybe I'm putting words in your mouth, but it seems to me you're asking me a policy question, and I think that's not really what my charge is here. That seems to be a policy question on the part of the regulators.

MR. RAO: Okay. We'll leave it at that.

I had one more question. This is page 7 regarding your second scenario

In your modelling exercise you have used 100 feet as the compliance boundary. I wanted to know what was the rationale for picking 100 feet? Was it based on the zone of attenuation that you had for lowest grade landfills?

MR. PETERS: Yes.

MR. RAO: Are you aware of the standard, the existing regulations that 100 feet does not apply to

potentially usable waste landfills?

MR. HARRINGTON: Could you read that back?

(Whereupon, the record was read.)

MR. PETERS: No.

MR. RAO: So, how would your modelling rules change, if the compliance boundary is much closer to the unit?

MR. PETERS: Let me explain the 100 feet a little more.

It is based on the low risk waste zone of attenuation, but also from a practical standpoint, in many cases with these landfills, with the side slope berms and exterior construction, 100 feet is sometimes as close as you can get to the landfill to monitor it.

MR. RAO: So, on a site-specific demonstration, like, an owner or operator of a particular landfill, will pick his own compliance boundary, depending on how the site-specific, you know, features are?

Is that how this demonstration works? It may be closer than 100 feet or it may be further than 100 feet?

MR. PETERS: Could you repeat that question again?

MR. RAO: Yes.

I just wanted to know whether on a site-specific demonstration that is required by your amendments, would the owner or operator pick a compliance point to make the demonstration based on the site-specific features, whether, you know, it's not tied up with this 100 feet distance?

MR. PETERS: It is a site-specific demonstration. As I said, we chose that because that was the -- that was the number that was easily identifiable, but it's not to say that that's what it would be.

If there were some other factors involved, such as deed restrictions or physical boundaries or something like that, it would have to be done on a site-specific basis, the selection of the compliance point.

MR. RAO: Okay. That's all I have.

HEARING OFFICER LOZUK-LAWLESS: Dr. Flemal?

BOARD MEMBER FLEMAL: I have a variety of things I would like to explore in part because I think some of these things just might be useful to have on the record.

Let me start first by going to the proposed language that would occur at 817.309(b)(2). The

new subsection being the 2.

In response to one of Mr. Rao's questions regarding whether you folks find it appropriate to put in the statement to demonstrate it to the Agency, there then raises in my mind the question of how you know that the Agency has accepted your demonstration? How do you see that playing out?

MR. WESSELHOFT: Well, obviously, in a permitting situation, there would have to be a permit approval.

BOARD MEMBER FLEMAL: So, there would be, then, some kind of affirmative decision on the part of the Agency that you have made a successful demonstration or not, depending on what their permit decision was?

MR. WESSELHOFT: Yes. Right.

BOARD MEMBER FLEMAL: How about in a situation where the landfill was not permitted? Exempt.

MR. WESSELHOFT: Well, what we have done in the past is sit down with the Agency and discuss this before we ever moved ahead with submitting the initial facility's report.

BOARD MEMBER FLEMAL: I would think that it would certainly be a good business decision to not complete the

siting of a permit exempt facility until you knew that the Agency would accept your demonstration under this point.

Do we need to have any explicit statement of -- an Agency declaration that they accept the demonstration or otherwise? Or is it satisfactory as presently proposed?

MR. WESSELHOFT: Well, I think the mechanism is in place to protect the State. Obviously, if you put in a 21(d) facility and the Agency disagrees with your demonstration, there will be an enforcement action to stop you from continuing.

BOARD MEMBER FLEMAL: Put another way, is it useful for you to have on paper the Agency's determination that you have successfully made a demonstration under this proposed Part 2? And, if that's the case, should that be part of the rule?

I'm not looking for a given answer here. I'm speculating as to whether there's some additional language.

MR. WESSELHOFT: We'll take a look at it, maybe adding something there.

BOARD MEMBER FLEMAL: See if we need something to

help that matter.

MR. WESSELHOFT: Yes.

BOARD MEMBER FLEMAL: Also, as part of the proposed language, there is a term which, my suspicion is, will prevent a JCAR problem. And I simply put this out for consideration on the part of whomever may be interested.

It's the use of the word "reasonable" in the second part of 817.309(b)(2).

As proposed, the phrase would be: "Be required to allow the reasonable use of Class I groundwater."

My experience is that if JCAR finds a word like that, the first question is what constitutes "reasonable"? What kind of information is going to be necessary to make an evaluation, whether it's reasonable or not? And, at this stage, I think I'll simply ask interested persons whether we need some flushing out of that word or perhaps even if the word is necessary.

Now, I noticed that Mr. Peters gave kind of a long description of what he thinks constitutes "reasonable" in that sentence.

Do we need it in some more formal

presentation, I suppose, is one question to be asked regarding that wording.

MR. WESSELHOFT: We can take a look at that.

BOARD MEMBER FLEMAL: I appreciate if you'd see about that.

Also, in terms of the proposed language, I note that in Subpart (b)(1) you make reference to an addition or change of what is Class II groundwater to Class III.

When we adopted this Section 817.309, now the Board clearly identified that as Class III groundwater. I note as, perhaps, you also have, however, that in the published version of the rules, it is Class II that's used. I think one of the things we're going to have to do there is try and find some official copy and see what the official copy is.

I would hope, perhaps, we don't have to amend that part, but it would depend on where the descrepancy crept in.

That was more observation than, obviously, question.

Two questions, then.

Mr. Slattery, in your statement, you, on a couple of occasions, I note very prominently on the top of page 6, note that your intent in today's proposed amendments is to allow existing PUW landfills to continue operation, yet the place where the language is proposed to be amended is in a part called "New Steel and Foundry Industry Landfills."

Can we get on the record some explanation and understanding of why it is, if we amend something called "new," the rules for new landfills, we are also affecting existing landfills?

Is that a question answerable now or something you would like to think about?

MR. SLATTERY: I believe it is.

When we went through this rulemaking change, there were existing potentially usable landfill sites that we believed were not part of 817.309(b) and that would apply to new potentially usable landfills.

Does that clarify it for you? I'm not sure how --

BOARD MEMBER FLEMAL: I don't think I'm quite there yet.

MR. SLATTERY: Okay.

MR. RAO: Could I say something, Mr. Flemal?

I looked at the rules and I found that the existing potentially usable waste landfills regulated and codified under 35 Illinois Administrative Code 814 cross-references back to 817 where the applicable rules are.

Is that, maybe, the reason why you changed 817, so it automatically applies to both existing and new landfills?

MR. WESSELHOFT: Yes. That was the reason for it.

MR. SLATTERY: Right

Still not there?

BOARD MEMBER FLEMAL: I was aware of the section that Mr. Rao was referring to.

I was just hoping that the record might find some kind of succinct explanation of why amendments to new landfills -- regulations applicable to new landfills also complies to existing landfills?

MR. SLATTERY: I would just, again, say that there are existing potentially usable landfills that in our opinion should have already been in a position to take

advantage of that rule, plus any future new potentially usable landfills would be in a position to take advantage.

BOARD MEMBER FLEMAL: Let's let that issue then rest there.

I am correct, am I, in my understanding that the MACL for chloride is, for potentially usable waste landfills, 250 milligrams per liter?

MR. SLATTERY: Yes.

MR. PETERS: Yes.

BOARD MEMBER FLEMAL: Do you have any data that shows how close to this maximum limit, 250 milligrams per liter, one actually gets in leachates from potentially usable waste?

MR. SLATTERY: We do, yes. We have data where foundries have tested their waste streams.

BOARD MEMBER FLEMAL: Do you often get this high, where you approach that maximum limit?

MR. SLATTERY: I haven't reviewed the data. I wish I could give you the answer, but I can't.

I mean, I have it and I could look at it and give you that answer, but I couldn't this day.

BOARD MEMBER FLEMAL: To the extent that the

modelling was done, assuming that the waste would produce the maximum allowable leachate concentration in a worst case scenario -- what I'm trying to get at is how reasonable the worst case scenario actually is -- if your concentrations are typically varying much less than 250 milligrams per liter in actual field situations, it would imply that your modelling is indeed quite conservative.

If, on the other hand, your field situation often shows that you are right up at the maximum, then it implies that there's less conservatism in your model.

MR. PETERS: Correct. And, if you notice, the groundwater standard is set at 200.

BOARD MEMBER FLEMAL: Yes.

MR. PETERS: So there would only have to be a slight decrease in concentration below the MALC for it not to be an issue.

BOARD MEMBER FLEMAL: Similarly, do you have any idea whether the MALC for manganese, which I believe is 0.75 milligrams per liter, is often achieved in a field situation?

MR. SLATTERY: Yes. I can assure you that in both

cases, chloride and the manganese, that foundry analytical data for waste streams that I've reviewed have met these standards.

BOARD MEMBER FLEMAL: I understand that they have met them, but I am interested in how close --

MR. SLATTERY: Right. I understand.

Whether it's high or low. But I can say comfortably that they are fairly well under the standard. I can't recall reviewing any data that would borderline.

MR. RAO: Mr. Peters, one more question.

This list to your modelling visits on Table III, page 9, for manganese, I was looking at the model values and all of them are higher than the Class I groundwater quality standards. Could you comment on those levels?

This follows what Dr. Flemal was asking about, where exactly and what range your actual manganese levels are, whether it's close to .75 or it was maybe significantly lower than MALC. Could you give us a feel for where the numbers are?

MR. PETERS: Again, as you've just heard Mike Slattery say, he wasn't aware of data that was Borderline.

It would be -- What we've presented here is the worst case because we are assuming that it's right at the MALC.

Having lowered these numbers by some factor that's leaching out of the waste, the numbers, the resulting numbers at the compliance boundary would be consequently lowered, as well.

I can't give you an exact range, because I don't have any data to compare it to. I'd have to do it on a site-specific basis.

MR. RAO: Mr. Slattery, would it be possible for you to give the Board, you know, some of the data that you have collected over time, which can give us a good feel for where the numbers are in the field?

MR. SLATTERY: Provide you a summary of that data or provide you data?

MR. RAO: No. Summary.

MR. SLATTERY: Summary of the data?

MR. RAO: Yes.

HEARING OFFICER LOZUK-LAWLESS: For both chloride and manganese.

MR. SLATTERY: Yes. We can do that.

MR. RAO: Thanks.

HEARING OFFICER LOZUK-LAWLESS: Then we will go on to the Agency and any Agency witnesses that would like to testify. Or, first, would you like to give any opening remarks?

MS. DYER: I would like to give an opening.

I'd like to introduce myself. My name is Judy Dyer. I'm representing the Illinois Environmental Protection Agency.

With me today are Kenneth Smith and Kenneth Liss from our Bureau of Land Permit Section.

I would ask that Mr. Liss be sworn in as a witness at this point, after which I intend to move his testimony be entered as if read.

(The witness was sworn.)

MS. DYER: I would move that the testimony we pre-filed for Mr. Liss be entered as if read?

HEARING OFFICER LOZUK-LAWLESS: Do you have another copy?

MS. DYER: Unfortunately, it seems to be missing from our files. I'm very sorry about that.

Do you have a copy?

HEARING OFFICER LOZUK-LAWLESS: Yes.

Then we'll enter as if read, Mr. Liss' testimony. His testimony will be marked as Exhibit Number 3.

(Said document, heretofore marked Exhibit No. 3 for identification, was admitted into evidence, to wit, as follows:)

MS. DYER: Mr. Liss is prepared to answer any questions that the Board has.

BOARD MEMBER FLEMAL: You've got to make him work harder than he's worked so far.

HEARING OFFICER LOZUK-LAWLESS: Do you have any questions for Mr. Liss?

MR. WESSELHOFT: We have no questions.

HEARING OFFICER LOZUK-LAWLESS: Dr. Flemal?

BOARD MEMBER FLEMAL: You've guys have been listening to some of our questions here regarding how this actually plays out.

Are you comfortable with some scenario where a plant can come to you and make a demonstration? You have some way of expressing your determination on that demonstration?

MR. LISS: Yes. I can speak on that. Kenneth Liss.

One of the questions proposed today was how do they envision the Agency will deal with these determinations. The demonstration.

Once through the permitting process, the 21(d) facilities, of course, didn't come -- it does not come to us when they build it. And when they file and they review the document, we would notify them if we didn't get satisfactory results. Of course, then it would be an enforcement issue then.

That's the way we would deal with all 21(d), and, therefore, we are not opposed if you would want to clarify in there how the demonstrations would be reviewed by the Agency. That's fine. But, initially, we weren't opposed to the wording that was proposed by them.

The other issue, I think, is the reasonable -- what is a reasonable use of Class I groundwater.

And since the rules were, of 620, promulgated for Class I groundwater, there is a yield determination, which is the stickler here, of 150 gallons per day.

If you get 150 gallons per day, we, therefore, call this formation, even if it's 6 inches, a Class I groundwater. And we have been discussing that with the people from ICMA as to how we do that and, if there is anything, maybe we should propose factors or criteria as part of this proceeding.

Myself, I usually like it as a performance standard. And for things like this, as technology changes or situations change, the Agency would update their current procedures. That's why we were unopposed to the use of "reasonableness." At this time, we look at it as a pumping rate.

150 gallons per day in 620 -- Is it 210? I want to look it up just so I'm accurate for the record.

620, it's Title 35, Part 620, Section 620.210 is where the 150 gallons per day is.

You can put in a well, you can reach a formation, and there is an interpretation out there in both the business consulting and within the IEPA that if you pump and you get 10 gallons and you come back in a few hours you get 10 gallons, as long as you accumulate 150 gallons, that would constitute Class I.

I would not consider that a reasonable potential to be used as a Class I groundwater. And discussing that with the ICMA people, we left it at "reasonable."

Right now we're discussing internally, and I think as part of the TACO tiered approach to clean up objectives, which is a risk-based method for determining cleanup objectives.

We were discussing, as a matter of Agency procedure, setting the pumping rate at approximately 4 gallons per minute and continuous.

So if you get 150 gallons per day, of the 150 gallons, during a period of approximately 37-1/2 minutes, you would consider it to be reasonable for someone in a rural area to spend the money, dig the well, and, you know, set up a household on that property and fit it with a pump. Go to the expense of 5 to $8,000. It depends on where you are in the depth consideration. And use that water.

We've got the 4 gallons per minute by looking at -- based on 4 people in a household. You would look at flushing toilets, shower heads, which are, I think

they're approximately 2.3, upwards, gallons per minute for the most efficient. We added those up. And if somebody were to turn the sink on while somebody was running the shower, you would need to sustain at least 4 gallons per minute.

Now, this isn't something I am proposing for the rule here, but this is what we have right now as a technical consideration from the Agency.

BOARD MEMBER FLEMAL: My concern here is not with the fact that your professional expertise might not be usefully brought to bear in any site-specific cases to whether or not, quote/unquote, there is reasonable expectation of use of Class I groundwater, but rather goes to the concerns very oftentimes expressed by the Joint Committee on Administrative Rules whenever we have a value judgment kind of term.

"Reasonable certainty" is such a term here. As you say, you would not find something reasonable, a particular scenario. It is often felt, however, that that kind of individual evaluation should not be part of the rules. That the rules should explicitly tell any person what is expected of them

without concern, as to who the person reviewing that information is going to be.

MR. LISS: May I say something?

Okay. There is another part to this.

There are some individuals within the Agency who feel the pumping rate should be half a gallon per minute, since it's currently under discussion.

Based on the fact that if somebody were to put in a dug well which might be up to 36 inches in diameter, according to the Department of Public Health Well Construction Code -- I can give you that. That's Title 7, Part 920 -- that you could cross several small formations and those wells are, basically, built for storage. And if there isn't a potable or -- a public water supply within 200 feet, that that situation, then, should be protected in the Rural area.

So there are -- I understand what you're saying and, yes, there are some other ways to interpret that.

Just like 150 gallons per day, getting so much gallons per hour added up, somebody would say, well, that's still Class I. It could be considered arbitrary as

well.

MR. RAO: And in this case, the use of the term "reasonable" is not just about yield? There can be other factors also, isn't it?

MR. LISS: Like what?

MR. RAO: In Mr. Peters' testimony, he talked about, you know, the factors which would constitute "reasonable" use.

MR. LISS: Like who's going to use it? For what purpose?

MR. RAO: Let me --

MR. LISS: The deed restrictions?

MR. RAO: Yes. So it's not just a question of yield.

And does any changes proposed to address this concern, can some language be put in with, say, you know, including but not limited to a site, some of the factors? That way it still, you know, leaves the Agency with flexibility, but, you know, addresses our concern.

MR. LISS: Uh-hum

BOARD MEMBER FLEMAL: I think perhaps at this stage we've sewn the seed and we will let the proponents and the

Agency think about this to see if there is any tinkering with that word "reasonable" that the Agency has used before.

Let me, Mr. Liss, if I might follow-up on one additional issue.

You indicated that if I am operating a PUW landfill and I am relying on the demonstration, but you haven't actually accepted, I can be enforced against.

Can I head that off by coming to you before I actually site my landfill and say "this is a demonstration I would like to make" and do you accept it? I'm thinking about the permitting exempt facility, rather than --

MR. LISS: The 21(d)?

BOARD MEMBER FLEMAL: Yes.

MR. LISS: Pardon?

BOARD MEMBER FLEMAL: Would you do that for them?

MR. LISS: They can file a permit. They are not required.

BOARD MEMBER FLEMAL: Yes.

MR. LISS: Sometimes a facility would come to us and pre-discuss things. Sometimes they don't. So, that's, I

guess, up to the person that wants to build this or the Company on their site, that they should bring it to the Agency to discuss it if they feel it's something out of the ordinary, but they're not required to, no.

BOARD MEMBER FLEMAL: Presumably, if I have an existing permit exempt landfill, I could come to you and say I want to continue operation or maybe even reopen an old one and I want to do that on the basis of my ability to demonstrate that I'm going to have no adverse impact. Do you think you would entertain that?

MR. LISS: Yes. If they requested a meeting, we would have a meeting with them. However, in meetings we are required to review the information they submitted to us. But it's not necessarily required, they would just compile the information and submit it.

BOARD MEMBER FLEMAL: Now, suppose I'm unhappy with the determination that I get from you and I'm still in a permit exempt facility, do I have any recourse to appeal your decision?

MR. LISS: I don't think its -- If it's not filed as a permit, I guess they would just be able to go ahead and do what they wanted to do and the ball would be in our

court to enforce against them, as opposed to in a permit scenario where we would deny.

BOARD MEMBER FLEMAL: Yes.

MR. LISS: The ball would be in their court to seek an appeal.

Correct?

MR. SMITH: Right.

HEARING OFFICER LOZUK-LAWLESS: Does the Agency have anything else they would like to put on the record?

MS. DYER: Not at this point.

HEARING OFFICER LOZUK-LAWLESS: Okay. Then, what we would like to see happen is perhaps some of the things that we discussed and issues left open, for example, the demonstration requirement, or getting to the reasonableness language.

If we could have something that you could propose to us by Wednesday, if that sounds like a sufficient amount of time.

And what we would like to do, given ICMA's revised proposal and considering that this rulemaking will now be under Section 817, instead of 814, we'd like to change the caption to now read: "In The

Matter Of Steel and Foundry Industry Waste Landfills: Amendments to 35 Illinois Administrative Code 817.309, Facility Location for Landfills Accepting Potentially Usable Waste."

And if you could note that caption on any future filings in this matter, that would be fine.

Like I mentioned earlier, we will be having the next hearing in Edwardsville at 10:00 o'clock at the Madison County Administrative County Board Room.

Anything else?

Okay. Then this matter is adjourned. Thank you.

(HEARING CLOSED.)

STATE OF ILLINOIS)
) SS:
COUNTY OF C O O K)

Sally A. Guardado hereby certifies that she is the Certified Shorthand Reporter who reported in shorthand the proceedings had in the above-entitled matter, and that the foregoing is a true and correct transcript of said proceedings.

Certified Shorthand Reporter
Notary Public, County of Cook, State of Illinois