

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

IN THE MATTER OF: )  
 )  
PROPOSED AMENDMENTS TO CLEAN ) R12-009  
CONSTRUCTION OR DEMOLITION ) (Rulemaking – Land)  
DEBRIS (CCDD) FILL OPERATIONS: )  
PROPOSED AMENDMENTS TO 35 Ill. )  
Adm. Code 1100 )

**NOTICE OF FILING**

**TO: SEE ATTACHED SERVICE LIST**

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board the Pre-Filed Testimony of Kenneth Liss Submitted by Waste Management of Illinois, Inc., a copy of which is herewith served upon you.

Dated: October 7, 2011

Respectfully submitted,

**WASTE MANAGEMENT OF  
ILLINOIS, INC.**

By: Michelle A. Gale

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Adm. Code 1100 )

**PRE-FILED TESTIMONY OF KENNETH LISS  
SUBMITTED BY WASTE MANAGEMENT OF ILLINOIS, INC.**

Waste Management of Illinois, Inc. (“Waste Management”) by and through its counsel, Dennis Wilt, hereby files the testimony of its expert, Kenneth Liss in this matter, as required by the Hearing Officer Order issued on August 15, 2011.

1. Introduction and Background. My name is Kenneth W. Liss. I am employed at Andrews Engineering, Inc. (Andrews Engineering) as the Vice President of Operations. I earned a Bachelor of Science degree from Illinois State University in 1983. I am a licensed Professional Geologist (L.P.G.) in Illinois. A copy of my curriculum vitae is attached.

Andrews Engineering was formed in 1975 to provide technical, engineering and science based services to the waste industry and other industries finding themselves subject to the emerging environmental rules and regulations at the State and Federal levels. I have been practicing geology in the field of groundwater and hydrogeology for over 25 years. Prior to my employment at Andrews Engineering, I was employed in the Bureau of Land Pollution Control (BOL) at the Illinois Environmental Protection Agency (Agency) for 14.5 years. I held a variety of positions from entry level scientist to manager of the Groundwater Assistance Unit in the Permit Section, BOL. During my employment at the Agency, I have been involved in the review of groundwater monitoring systems and in a number of rulemakings before this Board.

I am here today on behalf of Waste Management of Illinois, Inc., a leader in waste management and recycling, providing testimony concerning the proposed amendments to the existing 35 Ill. Adm. Code Part 1100, submitted to this Board by the Agency pursuant to Public Act 96-1416.

I was very fortunate to begin my career at the Agency in the mid 1980s. Federal Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq. ("RCRA") regulations were in place for managing hazardous and non-hazardous wastes. At the same time, Federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 9601 et seq. ("CERCLA") regulations were attempting to address damages to the environment that were not within the authority of RCRA. I was fortunate because this provided a new career path for me and many others in the environmental field. Billions of dollars were spent nationally due to the increased environmental scrutiny, including investigating environmental impacts, performing clean-ups and arguing the validity of those results.

Theories, opinions and techniques were continuously tested against the data coming in from the field. At the same time the advancements in computers compressed processing time from months and days to hours. Nearly everything relating to our work was improved by the amount of academic research produced and the stream of data being analyzed and compared to that research. This included analytical instrumentation, detection limits, aquifer characterization methods, contaminant transport equations, well construction materials and field instruments to name a few.

Illinois was one of the proving ground states for testing all of that advancement. Our state economy was built on a mix of agriculture and diversity in industry. As a result, Illinois had a good share of environmental issues. Alongside the improvements in technology and research, public policy was enacted that expanded the responsibilities of the Agency. Through legislative acts like the Illinois Environmental Protection Act, 415 ILCS 511, and the Illinois Groundwater Protection Act, 415 ILCS 55, rulemakings were finalized by this Board that focused on groundwater protection.

Now here we are today to consider rules proposed by the Agency that appear to take a step backward, especially with regard to protecting groundwater resources. The proposed rules are essentially self-implementing with little to no standards and no reliable procedures for monitoring or quantifying the mass of contamination actually being dumped at a site. Aquifer protection is an afterthought.

The Agency's proposed rules take a hands off approach, with no effective regulation of soil fill sites. For instance, no evaluation or technical demonstration is required to evaluate the appropriateness of fill site locations. The operational procedures are generally very subjective.

The site operator self-certifies by registering the site information and proceeds with the fill operation. No application is required and no permit process is in place for soil fill sites. The Agency does not have the ability to deny or modify an inadequate plan. What was at one time considered contaminated soil may now be called *uncontaminated soil* and placed directly on the floor of a former quarry without regard to the susceptibility of the underlying aquifer.

2. CCDD and Soil Fill Sites. On page 6 of the Statement of Reasons filed by the Agency in this matter, the Agency acknowledges the need for groundwater monitoring to protect groundwater because the front end screening process will not keep 100% of contamination out of CCDD and other fill sites, stating as follows on page 6:

“However, since the Illinois IEPA cannot be sure that the front-end screening process will keep 100% of contamination out of the fill operations, the groundwater monitoring requirement is necessary to detect any contamination of groundwater and provide timely corrective action and remediation.”

I agree with the Agency’s recommendation that groundwater monitoring is essential, particularly in light of the fact that the soil fill operations will often, if not always, be located in areas with high susceptibility to groundwater contamination. The Agency’s Statement of Reasons acknowledges this on page 6 as follows:

“A map of the current permitted CCDD fill operations shows that both public and private wells are found in close proximity to CCDD fill operations due to the fact that the same geologic material that is good to be quarried is also appropriate material in which to sink a groundwater well.”

Information published by the Illinois Department of Natural Resources also shows the proximity of sensitive ecological areas which are classified as Special Resource Groundwater under 35 Ill. Adm. Code, Section 620.230 Class III. This includes marshes, fens and bogs that are very sensitive to changes in groundwater quality including pH.

Based on my independent review and on the above-stated information, it is my opinion that the CCDD and other fill operations that will be accepting what will now be redefined as uncontaminated soil are generally located in areas without any natural protection of the underlying aquifer that are highly susceptible to groundwater contamination.

3. Generator Certification, Load Checking and Representative Samples. A CCDD facility is required by the Agency's proposed rules to obtain a limited site owner/operator certification that soil is not from a potentially impacted property. No owner/operator certification is required to be obtained by fill operators. In my opinion, generator certification is an important deterrent to waste being disposed of improperly. The Agency's proposed rules require that CCDD facilities rely on a Photo Ionization Detector (see Subpart B, Section 1100.205(b) ) for certifying and checking loads. In my opinion, this provides no protection. There is no standard protocol for performing this procedure nor is the procedure capable of detecting the vast majority of the contaminants that would be present in soils. There are no screening requirements for fill operations. There are no standards set forth in the Agency's proposed rules regarding sampling (see Section 1100.610). Sampling will necessarily result in only a very limited percentage of the soil to be disposed of being actually tested, usually less than a fraction of 1% of the soil materials will actually be tested for contaminants. Given the increased risks of groundwater contamination due to the limited generator certification and load checking and the lack of standards regarding sampling, groundwater monitoring becomes an even more significant and important protection.

4. Tainted Soils. In my opinion, Public Act 96-1416 essentially creates a new class of soil materials which I will refer to hereon as being "Tainted Soils." As in the past, clean soils, i.e. soils without any contamination, can still be relocated and used as fill anywhere in Illinois without regulatory oversight. As in the past, contaminated soils, i.e. soils with contamination levels equal or less than those established by this rulemaking, will be considered waste materials and must be properly disposed of as such. However, the Act approves of the disposal in fill operations of Tainted Soils, i.e. soils that were previously considered to be waste materials.

For example, soil contaminated with "background" levels of benzo(a)pyrene removed in connection with a brownfield clean-up project that is to be removed from the clean-up site would have been considered a waste prior to Public Act 96-1416. Now, such contaminated/tainted soils can be removed from the clean-up site and disposed of in an unlined fill operation. In my opinion, this is a significant change to past environmental practices in Illinois, creating new groundwater contamination risks that need to be reduced through establishment of rules by the Board that require groundwater monitoring more protective than that proposed by the Agency,

particularly given the fact that CCDD and fill sites are likely to be located in highly susceptible areas.

At the first hearing on September 26, 2011, comments were made during questions posed by representatives of the Illinois Association of Aggregate Producers that nothing has changed from past practices of moving contaminated soil. The representatives went on to question why the Agency is proposing groundwater monitoring since no data exists to support the need. However, the representatives did not offer any information supporting the position that the soils accepted were uncontaminated. To the best of my knowledge, there has never been any groundwater monitoring of "clean" fill sites and there is no evidence that the existing sites have not impacted the groundwater.

Although the Agency did not respond by identifying past problems of contaminated soils being disposed of improperly, there are a number of recent enforcement actions that evidence the risks involved, including *People v. Stark Excavating Inc.* Case No. PCB 09-65, *People v. 87<sup>th</sup> & Greenwood, LLC*, Case No. PCB 10-71, and *People v. Reliable Materials et al.*, Case No. PCB 2012-052. There are quarries in the Chicago metro area that have taken very large amounts of contaminated soil from the urban areas and dumped the soil in unlined quarries without regard for local background conditions. I can understand why the lobby effort pushed to define contaminated soil as uncontaminated.

The Tiered Approach to Contamination Objectives (TACO) paved the way to balance the economics of a remediation project with public risk. No doubt the economy, developers and the regulated community have benefited from that program. The current proposal applies TACO criteria that was intended to only apply to fully characterized remediation sites that were scrutinized for hot spots and other potential risks through regulatory oversight. Now, these same TACO standards apply to the movement and disposal of Tainted Soils into unlined quarries, holes and pits, likely pristine areas, without any oversight and without regard for the potential site-specific risk. TACO was originally designed to be used in programs which require significant levels of investigation and Agency oversight, deed restrictions and in some cases financial assurance that are not mandated here. See 35 Ill. Adm. Code 742.105(b).

In my opinion, the status quo has changed because the Act will allow Tainted Soils containing carcinogens and other contaminants to be deposited directly into unlined quarries located in or on aquifers with little regulatory control and no way to stop it if we are lucky to

detect an impact. The proposed rules contain maximum allowable levels of contamination based on risk but the proposed screening techniques to ensure those levels are not exceeded are inadequate, as are the proposed groundwater monitoring requirements.

It is also my opinion that soils with contaminants, likely soils with carcinogen concentrations, beyond those allowed by the proposed rules, will end up in these sites despite the Agency's attempts to prevent this from happening.

5. Groundwater Monitoring. Without site location standards or engineered controls such as a compacted earthen subgrade or liner, groundwater protection at the quarry or other fill area is non-existent. We wait and hope to detect contamination from the fill area just before the contamination moves off the site. However, as allowed in the proposed rules, monitoring may not be required until the site is filled and nearing closure. At a time when the site is closing and revenues are dwindling, and monitoring is most needed, there is no financial assurance to ensure funds are available to properly close or mitigate impacts from fill sites. That burden will be placed on the public.

Although the Agency's proposed rules correctly require a groundwater monitoring system, the basis for establishing such a system, a hydrogeologic investigation, is not required. In fact, there are no requirements (standards) for characterizing the aquifer in order to determine the flow direction, thickness, fractures, hydraulic conductivity, etc. Basic site specific information is required of nearly all other BOL programs. This site-specific information is essential to locate and install groundwater monitoring wells that will have a good probability of detecting constituents that have entered the groundwater from the fill unit as required in Section 1100.725. The lack of standards and the lack of site-specific data greatly diminish the ability of the Agency to challenge whether the operator has effectively complied with the rules during the Compliance Period defined in Section 1100.715.

If groundwater monitoring is ever conducted and monitoring data indicates that a groundwater standard has been exceeded, the operator can self-certify at any point that there was an error or possibly an offsite influence causing the aberration.

At anytime during this process of evaluating data, the operator may implement Section 1100.760 Dewatering Fill Operations and forego any further investigation of groundwater contamination, cease monitoring and any required corrective action in its entirety, possibly forever.

Only annual monitoring is required (Section 1100.725), and post-closure monitoring could be as limited as one year (Sections 1100.209 and 715). The proposed rules do not require any financial assurance. Finally, the proposed rules (Section 1100.720) allow CCDD and fill operations to contaminate groundwater up to Class I standards.

In my opinion, the proposed groundwater monitoring requirements are insufficient to protect the groundwater.

6. Recommended Changes to Proposed Rules.

a. Generator Certification, Load Checking and Representative Samples.

The proposed rules should be revised to require both CCDD and fill operators to obtain written certification from the site owners or operators that the soil material to be disposed of is not waste under Illinois law. Load checking should be required for both CCDD operators and fill operators. A professional engineer needs to certify the sampling plan. Specifically, the engineer should certify that the sampling plan has been designed to identify any contamination concentrations of the soil within the property, including any zones of high concentration that can be segregated for treatment and/or disposal. The soil sampling should also be designed to derive concentrations for soil that are representative of the soil, considering segregation of such zones, such that the concentration of contaminants in those zones are not diluted by other less contaminated soils on the property. Appropriate ASTM standards should be referenced with respect to development and implementation of these sampling plans.

b. Groundwater Monitoring

(i) Groundwater Quality Standards. Proposed Rule Section 1100.720 would allow CCDDs and fill operations to adversely impact groundwater quality up to Class I standards. I believe the appropriate standard should be based upon site specific groundwater data, consistent with 35 Ill. Adm. Code 742.410 and the Illinois Groundwater Protection Act which provides that any level of degradation in groundwater quality be prevented. 415 ILCS 55/2.



(ii) Sampling Frequency. As pointed out by the Illinois Attorney General in its March 11, 2011 comments on proposed rules, semi-annual sampling should be required consistent with the Board Inert Waste Regulations.

(iii) Post-Closure Monitoring. The one-year post-closure maintenance period is woefully inadequate with respect to identifying potential long-term impacts a CCDD facility or fill operation may have on surrounding areas. Given the geology of where many CCDDs and fill operations are and will be are located, it may take up to five years for contamination to be identified. I believe the post-closure monitoring period should be a minimum of 5 years.

(iv) Review and Approval by IEPA. To insure that groundwater monitoring plans are prepared properly, a CCDD and fill operation should be required to have its plan approved in advance by the Agency based on standards generally applied to other groundwater monitoring programs under 35 Ill.Adm.Code 811.

(v) Financial Assurance. Given the limited financial resources needed to operate a CCDD facility or a fill operation and the importance of post-closure monitoring, CCDDs and fill operations should be required to provide financial assurance to insure that the post-closure monitoring program will be conducted.

(vi) Post-Closure Maintenance Plan. The post-closure maintenance plans required by Section 1100.310 should include a description of the groundwater monitoring to be performed after closure.

c. Non-Compliance Responses, Demonstrations and Corrective Action Programs. The final rules should require that the Agency review and approve any corrective action submitted pursuant to Section 1100.745, any demonstration under Section 1600.750 and any corrective action program under Section 1100.755.

Respectfully submitted,



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Dennis Wilt  
Attorney for Waste Management of Illinois, Inc.

Dated: October 7, 2011



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**Kenneth W. Liss, L.P.G.**  
**Andrews Engineering, Inc.**  
**Vice President of Operations**

**Years with Andrews Engineering:** 12

**Years with Other Firms:** 15

**Education**

Bachelor of Science, Illinois State University, Normal, Illinois

**Professional Registrations / Certifications**

Licensed Professional Geologist – Illinois  
OSHA Hazardous Waste Site Worker Certification (40 hr.)  
OSHA Hazardous Waste Site Worker Certification (8 hr.)

**Professional Appointments**

Chair, Illinois Site Remedial Advisory Committee  
Ethics Officer, Illinois Site Remedial Advisory Committee  
Former Vice Chairman, Illinois Licensing Board for Geologists

**Experience**

Negotiating Solutions to Regulatory Issues  
Program Management for RCRA and State Solid Waste Permitting Programs  
State and Federal Groundwater Regulations and Policies  
Groundwater and Geologic Investigations  
Site-Wide Environmental Remediation Planning  
Brownfields Issues  
Expert Witness Testimony

**Professional Summary**

Mr. Liss joined Andrews Engineering's Springfield office as Director of Environmental Services and now serves in a dual role as both the Vice President of Operations and Springfield Office Director for the firm. He provides a broad range of environmental expertise to industry, government and individual clients.

Prior to joining Andrews Engineering, Mr. Liss was a technical reviewer in the Permit Section of Bureau of Land at the Illinois Environmental Protection Agency (IEPA) and later the manager of the Groundwater Unit in the Permit Section. His work experience in these positions at the Agency included permitting for hazardous and non-hazardous facilities; determining appropriate responses to environmental impacts; and drafting guidance for permit related submittals concerning hydrogeologic investigations, groundwater monitoring and contaminant transport modeling.



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Mr. Liss has participated in technical and administrative roles in the development of new legislation and rule making at the state level for the Bureau of Land. These roles have included preparation of rulemakings and testimony for risk-based decision making (TACO), utility coal combustion wastes, and modification to existing non-hazardous landfill rules, the Part 620 groundwater rules, and corrective action/remediation programs. Mr. Liss was also an expert witness for the IEPA as part of enforcement, rule-making and public hearing proceedings and continues to do so for the regulated community.

Mr. Liss was appointed to the first Board of Licensing for Professional Geologists in Illinois and is currently under appointment from the Governor's office to the Illinois Site Remedial Advisory Committee. Authorized under the Environmental Protection Act, this 10-member rules committee represents the interests of the regulated community where the IEPA is planning legislative or rule-making to certain IEPA programs. More recently, the Committee worked with the IEPA on modifying the Leaking Underground Storage Tank (LUST) program, Site Remediation Program (SRP) and the Tiered Approach to Corrective Action regulations.

Mr. Liss has performed or managed regulatory and technical oversight for approximately 200 active RCRA projects involving CERCLA, corrective action, closure, post-closure, mining and remediation issues. He has also managed or prepared non-hazardous waste permits for more than 160 state facilities, the majority of those being solid waste landfills. This work includes overlapping regulatory issues involving a variety of State/Federal programs, CRCRA, CERCLA, water pollution, air pollution, conservation and well head protection. In addition, Mr. Liss has worked with the United States Environmental Protection Agency as a panelist for the Managing Corrective Actions RCRA Petroleum Refineries forum. He was a member of the RCRA Permit Quality Review Team and the NEIC Hazardous Waste Groundwater Task Force. He also participated as a technical assistant for the IEPA in the development of the "RCRA Inspector's Guidance Manual" and the "Technical Enforcement Guidance Document".

**PROOF OF SERVICE**

I, Michelle A. Gale, certify that I have served the attached Notice of Filing and Pre-Filed Testimony of Kenneth Liss Submitted by Waste Management of Illinois, Inc., by U.S. Mail, first class postage prepaid, on October 7, 2011 to the following:

|   |  |
|---|--|
| John Therriault, Clerk<br>Illinois Pollution Control Board<br>James R. Thompson Center<br>100 West Randolph Street, Suite 11-500<br>Chicago, IL 60601             | Marie Tipsord, Hearing Officer<br>Illinois Pollution Control Board<br>James R. Thompson Center<br>100 W. Randolph St., Suite 11-500<br>Chicago, IL 60601               |
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