BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
RCRA SUBTITLE D UPDATE, USEPA	)	**R 05-01**
REGULATIONS (January 1, 2004,	)	**(Identical-in- Substance**
Through June 30, 2004)	)	**Rulemaking – Land)**

NOTICE OF FILING

PC#3

TO: See Attached Certificate of Service

Please take notice that on March 7, 2005, I filed with the Illinois Pollution Control Board an original and four copies of this Notice of Filing and the attached COMMENTS OF ONYX WASTE SERVICES, INC., copies of which are attached hereto and hereby served upon you.

Dated: March 7, 2005

ONYX WASTE SERVICES, INC.

By: _____
One of its Attorneys

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CERTIFICATE OF SERVICE

Patricia F. Sharkey, an attorney, hereby certifies that a copy of the attached Notice of Filing and COMMENTS OF ONYX WASTE SERVICES, INC. was served on the persons listed below by First Class, United States Mail, proper postage prepaid, on March 7, 2005.

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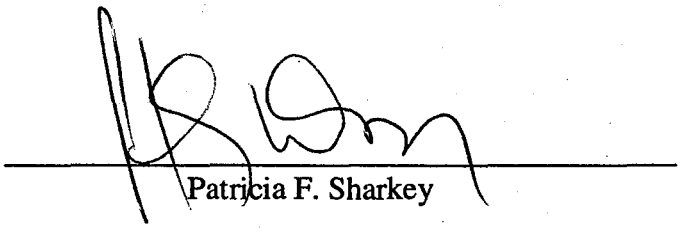

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COMMENTS OF ONYX WASTE SERVICES, INC.

As a company that hopes to employ bioreactor techniques at landfills in Illinois, Onyx Waste Services, Inc. ("Onyx") is pleased to have an opportunity to provide comments to the Illinois Pollution Control Board on its incorporation of the federal Research, Development and Demonstration ("RD&D") rules into Illinois law. Onyx is the world's second largest waste management and environmental services company. Onyx owns and operates thirteen Municipal Solid Waste Landfills ("MSWLFs") in the United States where liquids are introduced into the waste mass in order to increase moisture content. These landfills all have active gas management systems. Onyx's parent company, Veolia Environment, also operates 141 MSWLFs world wide, 70% of which feature biogas treatment systems and 21% of which optimize gas production for alternate energy sources ("green power").

Onyx owns and operates three landfills in Illinois which would be candidates for operation as bioreactor landfills under the Board's rulemaking in this docket. In fact, Onyx recently received a grant from the National Science Foundation to perform a study of liquids addition at its Orchard Hills Landfill and therefore anticipates applying for an amendment to its operating permit under the RD&D rule adopted in this proceeding in the near future. All three of Onyx's Illinois landfills are permitted to recirculate leachate;

however, Onyx has found that simply recirculating leachate at its two larger landfills in Illinois (Onyx Orchard Hills Landfill (Rockford) and Onyx Zion Landfill (Zion, Illinois)) does not result in the optimization of moisture content in the waste. This is a regional problem. Onyx has found that the weather, geology and moisture content in municipal solid waste ("MSW") in Illinois, and in the Midwest in general, require that a greater amount of liquid must be added to landfills to stimulate rapid waste decomposition. As is discussed below, bioreactor landfill technology has been demonstrated to be safe and to have many environmental benefits. Thus, it is in the interest of the Illinois environment to streamline the permitting process to ensure that these technologies are put in practice here in Illinois as quickly as possible.

Onxy was an active participant in the development of the USEPA RD&D rules and is well versed in the history and intent underlying that rulemaking. Onyx provided comments to USEPA on the RD&D rule through the Solid Waste Association of North America ("SWANA") and has also provided USEPA with operating data from its landfills for USEPA's study of bioreactor landfills. By these comments, we hope to underscore the significance of the Board's rulemaking to the future development of bioreactor landfills in Illinois and to reducing current environmental impacts and the long-term risks associated with "dry tomb" MSWLFs in Illinois.

Summary of Onyx Comments

On March 22, 2004 (40 Fed. Reg. 13242) , USEPA published final regulations containing standards for the streamlined issuance of Research, Development and Demonstration ("RD&D") permits under Subtitle D of the Resource Conservation and Recovery Act ("RCRA").This rulemaking paved the way for streamlined state permitting

of bioreactor landfill techniques for new and existing landfills. RD&D permits will allow landfill owners and operators to increase stabilization rates by the addition of outside liquids other than leachate , to install alternate caps that allow more infiltration than the impermeable cap rule, and to allow controlled "run-on" of stormwater.

On January 6, 2005, the IPCB proposed regulatory language for the incorporation of the USEPA RD&D rule into the Illinois Administrative Code via a fast-track rulemaking procedure that is authorized for regulations which are "identical in substance" to federal regulations. Onyx applauds the Board for opening this rulemaking docket to adopt the federal RD&D rule as expeditiously as possible. However, Onyx is concerned that the Board's proposed regulatory language is not "identical in substance" to the federal regulatory language and that, as proposed, this language will limit the usefulness of the USEPA rule by creating an overlay of redundant and lengthy procedural hurdles for RD&D permit applicants. The creation of a bifurcated, cumbersome process for issuance of these permits is contrary to the stated intent of the USEPA RD&D rule and may discourage waste companies, such as Onyx, from utilizing innovative and environmentally beneficial bioreactor landfill techniques in Illinois landfills.

In the case of RD&D permits, an Adjusted Standard proceeding is an unnecessary exercise. Adjusted Standards are necessary where a party is seeking a different standard. See 415 ILCS 5/28.1(c). In this case, the RD&D rule itself provides the standards for the permit decision. The RD&D standards are *performance standards* designed to ensure the same level of environmental protection provided by existing "dry tomb" landfill requirements. These standards were based on many years of research by EPA and have been documented to provide superior environmental protection. See attached list

referencing various key studies performed since 1959 and selected attached documents including Onyx's own study entitled *"Sanitary Landfills 2003 – From Dry tombs to Wet Bioreactors," B. Todd Watermolen and Gina Perugini, Onyx Waste Services, Inc.. (Attached)*

The scope of the RD&D rule is limited to a few RCRA regulations that have been identified by USEPA as standing in the way of broader bioreactor development in the United States. The selection of *performance standards* and an *equivalency* approach, rather than a "command and control" regulatory approach, was carefully considered by USEPA and is designed to promote innovation. Furthermore, there is nothing unusual about this performance standard approach. As the Board has itself noted, alternative, environmentally "equivalent" practices and technologies are allowed under a number of other RCRA Subtitle D regulations for which the Board has not required an Adjusted Standard proceeding. Given the track record established by bioreactor landfills, there is no reason to subject RD&D permit applicants to the delay and cost associated with an Adjusted Standard proceeding in addition to the normal RCRA permitting process.

Onyx recommends that the Board use this "identical-in-substance" rulemaking docket to adopt the federal RD&D language essentially *verbatim*. If adopted verbatim, the Board's rules will incorporate the necessary standards to guide IEPA's permit decisions and the Board's review of those decisions in the context of permit appeals.

Background on Bioreactor Landfills

Before commenting in more depth on the Board's RD&D Proposal in this proceeding, Onyx would like to provide the Board with a brief overview of bioreactor landfills, the state of

the technology, its environmental advantages, and USEPA's and other states' research and regulatory approach.

Bioreactor technology has been approved by USEPA and by twenty-three (23) states. There are currently fifty-one (51) active bioreactor landfill projects operating in the United States. (*See SWANA Bioreactor Committee list, 2004.*) Bioreactor techniques have also been demonstrated to be effective in twenty-two (22) pilot scale and full scale demonstration projects in the United States. There is also a substantial body of data that has been developed at European bioreactor landfills that contributes to our understanding of this technology.

A bioreactor landfill is a facility operated to transform and degrade organic waste significantly faster than the current "dry entombment" process. This is accomplished by injecting liquids and recirculating leachate which accelerates organic decomposition. This process stabilizes the waste mass *decades sooner* than "dry landfill" practices. By accelerating decomposition of waste, a landfill is operated in a manner similar to a "static compost" facility. The bioreactor landfill treats leachate faster because it flushes out pollutants from the waste mass with leachate recirculation, binds metals in precipitates, and biodegrades VOCs in the leachate.

Maintaining a minimum volume of leachate on the liner has been observed to be a manageable issue in bioreactors reported in the literature. See the attached reports on controlled side-by-side studies comparing bioreactor and "dry tomb" waste cell technologies at the Outer Loop and Yolo County Landfills. These graphs show less than one foot of leachate on the liner at all times and that the total volume of leachate produced by the bioreactor cells were less than that produced in the "dry tomb" cells. In fact, none of the previous bioreactor landfill pilot scale or full scale projects has been found to cause an adverse environmental impact during its operation or to increase the head of leachate on the liner. (See attached documents discussing

bioreactor landfill data and research.) Thus, bioreactor landfills should be considered a safer mode of managing MSW landfills.

The introduction and circulation of liquids in each waste cell results in the following environmental benefits:

- Generates usable gas quantities at a faster rate for renewable energy source and increases revenues from energy sales.
- Reduces greenhouse gas emissions.
- Allows for re-use of areas of the landfill that have settled due to the transformation of organics to gas and leachate. Airspace gains due to settlement have resulted in up to 40 % additional volume added to the same landfill cell. This reduces the need to expand or build more landfills.
- Reduces long term risk and post-closure care of landfills due to the rapid treatment of leachate and reduction in gas production to safe levels.
- Provides a safer disposal method for no-hazardous liquid wastes that previously were discharged to surface water and air (discharges to air and surface water from a bioreactor landfill are avoided and controlled)

Liquid addition optimizes landfill gas production in a short period of time in quantities that can be effectively and economically captured by an active gas management system earlier in the life of the landfill. As a result of earlier and more efficient active gas management, this technology reduces odors and methane emissions that would otherwise be slowly emitted to the environment. Producing energy from methane also offsets CO2 produced by burning fossil fuels for an equivalent amount of energy.

Veolia Environment's, research and development division CREED, located in France, conducted research pioneering the development of bioreactor landfills that optimize landfill gas production and provide alternate sources of energy. Veolia is

particularly excited about the potential this technology offers for reducing "greenhouse gases" which cause global warming. The Intergovernmental Panel on Climate Change has found that methane gas has an impact on global warming that is potentially twenty-one times more than that of CO2. Thus, combusting methane in controlled flares, engines, and turbines not only provides "green power," it also reduces "greenhouse gas" emissions

Here in the United States bioreactor landfill technology has been studied since the late 1950's. USEPA and the Department of Energy have supported research in their predecessor agencies since the late '60s. (See attached reference list and selected attached documents discussing this research.) This research recommends *moisture addition* to achieve "field capacity," the level at which gas production and decomposition are optimized, in MSW. Field capacity for MSW is often 45-50% wet weight. Moisture levels in MSW typically run about 20-25% in the Midwest. Thus, significant volumes of moisture are required to achieve optimum degradation at landfills in this area. It is estimated that a bioreactor landfill requires from 40 to 80 gallons of liquid per ton of MSW to achieve optimum moisture levels. This is substantially more than can be added by simply recirculating leachate.

Under USEPA's Subtitle D RCRA regulations, recirculation of leachate was allowed to increase landfill stability. But, after reviewing the data generated by landfills that recirculated leachate, USEPA realized that most sites do not have sufficient leachate volumes to achieve "field capacity," and, thus, need to add liquids from outside sources to promote decomposition.

As early as 1997, even before USEPA's RD&D rule had been proposed, fourteen states (Alabama, Alaska, Arkansas, California, Colorado, Delaware, Florida, Iowa, Michigan, Mississippi, Montana, New Jersey, New York and Washington) either had permitted bioreactor

extended over two to three years. As a result of the time and delay built into the Project XL procedures, only four bioreactor projects have been approved to date under that program.

By 1998, USEPA's Air Pollution Prevention and Control Division (EPA-600/R-98-021, Feb 1998) had designated bioreactor technology as an emerging and environmentally preferable alternative for landfill gas management. In its 1998 report on "Emerging Technologies for the Management and Utilization of Landfill Gas, " USEPA's Air Division described bioreactor landfills as a "Tier II technology" for the control of greenhouse gases. (Attached.) USEPA recognized that the bioreactor would control more gas in the active operation of the landfill and provide for waste stabilization much faster than a "dry tomb" landfill.

By 2002, USEPA recognized that landfill technology had evolved, but that regulatory hurdles in the Subtitle D regulations were limiting the use of environmentally superior techniques. Thus, it proposed the RD&D rules to streamline the permitting process and encourage faster development of bioreactor landfills. On June 10, 2002, USEPA proposed the RD&D rule, stating:

> " EPA is proposing to allow permits for alternative design and operating requirements because EPA has become aware of new or improved technologies for landfill operations and design since the promulgation of the MSWLF criteria in 1991. These include: (1) improvements in liner system design and materials; (2) improvements in the design of, and materials used in leachate drainage and recirculation systems;(3) new processes for more rapid degradation of waste which require the addition of water or steam; (4) new liquid distribution techniques (see EPA Docket Number F-2000-ALPA-FFFF for FR Notice: alternative Liner Performance, Leachate Recirculation, and Bioreactor Landfills: Request for Information and Data, April 6, 2000, FR 18014); and (5) improvements in various monitoring devices (i.e., "Prediction and Measurement of Leachate Head on Landfill Liners," Debra R. Reinhart, Florida Centre for Solid and Hazardous Waste Management, Report #98-3, July 1998)." 67 Fed. Reg. 39662, at 39664

process can be expected to build months, and, with the possibility of appeals, even years, of delay and added cost into the RD&D permit process.

4. The Proposed Bifurcated Decision Process Won't Work

Because the RD&D rule already contains standards, the Board's Adjusted Standard proceeding will only involve applying those standards to a specific bioreactor proposal, just as the Agency will ultimately do in the permit process. This prior Adjusted Standard review of the same technical elements of individual RD&D proposals that will be the subject of the permit process is duplicative and "puts the cart before the horse."

As a practical matter, each RD&D proposal will present technical issues on which the Board will require detailed information and the Agency's and the Applicant's technical expertise. Because the Board's Adjusted Standard process is a formal "arms length" adjudicatory process, the Board cannot sit down and discuss the proposal and technical aspects with the applicant and the Agency. Thus, in practice, the applicant and the Agency will have to meet and work out an agreed proposal before the Adjusted Standard proceeding is initiated.

But until the Agency has reviewed the detailed plans that would accompany a permit application, it will be hard-pressed to concur in a conclusion that there will be no groundwater or surface water contamination from a particular project or that the project is "as protective as" the "dry" landfill approach. These, in fact, are the fundamental, fact-based decisions the Agency is charged with making in its permitting process. So as a practical matter, the permit applicant will have to prepare and submit its permit application to the Agency in advance of the Adjusted Standard proceeding. However, IEPA has informed Onyx that it will not "co-process" a RD&D permit application while

comparative data from the Yolo County bioreactor demonstration project discussed in "A Beneficial Investment in Trash, Controlled Landfill Bioreactor Project, Urban Corsortium Energy Task Force, Yolo County, California Planning & Public Works Department, Division of Integrated Waste Management, May 2000." (Attached) Given these findings, there is no demonstrated need for greater public process for RD&D permits than for any other SWMLF permit.

6. RD&D Decisions Are Engineering Decisions That Should Be Made By the IEPA in the Permitting Process

The Board states in its Opinion that "The RD&D permit determination is beyond the outer boundary of the decision-making authority that can be conferred on the Agency by regulation." See Proposed Opinion and Order at p. 7. Onyx respectfully disagrees with this conclusion. The RD&D rule requires the permitting authority to make fact-based technical determinations on individual projects. These decisions do not require "standard-setting" because the RD&D rule itself contains the necessary standards. Under the Illinois Environmental Protection Act's division of powers, factual decisions in individual cases are, in the first instance, the function of the permitting agency, the IEPA, not the Board.

The decisions involved in the issuance of RD&D permits are engineering decisions. For example, if the RD&D applicant requests an RD&D alternative to the run-on control rules (35 Ill. Admin. Code 811.301(b1) and(b)(2)) or the liquids restriction rules (35 Ill. Admin. Code 811.107(m)(1)), the permitting authority must first determine whether 1) the landfill has a leachate collection system designed and constructed to maintain less than 30-cm depth of leachate on the liner, and 2) whether the new methods will cause contamination of groundwater or surface water. For an alternative to the final

cover standards (35 Ill. Admin. Code 811.314(b) and (c)), the Agency would review the applicant's technical demonstration that 1) infiltration won't cause contamination and 2) the leachate depth on the liner will not exceed 30 cm in depth.

As the Board notes in the Proposed Opinion and Order, these are "engineering judgments of a type routinely made by the Agency." (Opinion at p. 8.) Yet, the regulatory language proposed by the Board would take these decisions entirely away from the Agency and require them to be made by the Board in an Adjusted Standard proceeding:

> " Section 813.112(a) ...the Agency *must* issue a research, development, and demonstration (RD&D) permit for a new MSWLF unit, existing MSWLF units, or lateral expansion...*provided the Board has determined by an adjusted standard ...that the MSWLF unit has a leachate collection system that is designed and constructed to maintain less than a 30cm depth of leachate on the liner and that the innovative and new methods will not cause contamination of groundwater or surface water...*" (Opinion at p. 52. Also see Proposed Section 813.112(b))

7. The equivalent protection standard is not "too nebulous" as a standard for Agency permitting and Board permit appeals.

The Board's reason for requiring the Adjusted Standard proceeding, as stated in the Opinion, was that the standards in the RD&D permit were "too nebulous." In particular, the Board stated the "at least as protective" standard in 40 CFR 258.4(c) was "problematic" – apparently in the sense that it requires the exercise of judgment which in the Board's opinion "would benefit through a record developed through the notice and opportunity for comment." (Opinion at p. 8) Oddly, in light of this stated concern, the Board's proposed regulatory language places the "at least as protective" decision in the

Agency permitting process, not the Adjusted Standard proceeding.[2] Onyx agrees that the Agency is the correct entity to be making these decisions, but is confused by the Board's statement compared to the proposed regulatory language.

Onyx disagrees that *any* of the standards in the RD&D rule are "too nebulous" to be applied in the permitting process. The standards in the RD&D rule are "performance standards." While designed to encourage technological innovation and flexibility, but they are neither open-ended nor "nebulous." The decisions required under Section 813.112(a) and (b), as the Board itself states, are engineering judgments routinely made by the Agency. The decision regarding the equivalency of protection of the environment is also an engineering decision. As USEPA explained:

> "EPA believes an "equivalent or better" standard is the correct standard. EPA has promulgated objective criteria under the statute, many of which include authority for approved states to allow "alternative" means of meeting the criteria which are 'equivalent.'" (69 Fed. Reg. 13242 at 13251-13252)

The equivalency standard requires the decision maker to compare the performance of proposed bioreactor technology and practices to the performance achieved by "dry" landfill technology and practices required under the "final cover," "run-on control," and "liquids restriction" regulations. There is nothing nebulous about this. To demonstrate that a proposed bioreactor project provides equivalent protection as that provided by these existing regulations, an RD&D permit applicant will be required to provide detailed engineering information and comparative data on environmental impacts in the permit application and upon renewal. As discussed in the attached literature, there

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[2] "Section 813.112 (c) Any RD&D permit issued under this Section must include such terms and conditions as are at least as protective as the MSWLF standards..." (Opinion at p. 53)

is an extensive body of research providing comparisons of leachate and gas production at various moisture levels in bioreactors to leachate and gas production levels at "dry tomb" landfills.

Determinations of environmental "equivalency" are not subjective judgments. Rather, they are decisions based on hard data, engineering expertise, and environmental science principles and calculations. Again, these are decisions the Agency makes routinely in the permit process, and that the Board is authorized to review in permit appeals.

8. Other Board Subtitle D Regulations Allow Equivalent Alternative Practices Without Requiring Adjusted Standard Proceedings

As the Board notes in the Proposed Opinion and Order, "Those determinations made by an Agency to allow alternative materials or practices that are permit decision[s] contain sufficient standards for performance of the alternatives." (Opinion at p. 7.) The Board cites Sections 811.106(b) and 811.314(b)(4)(C) as examples of Board rules that authorize the "alternatives" based on a standard of "equivalent or superior performance to the requirements of [other subsections]." [3] Onyx agrees that these are examples of other

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[3] Section 811.106(b)

"...Alternative materials or procedures, including the removal of daily cover prior to additional waste placement, may be used, provided that the alternative, materials or procedures *achieve equivalent or superior performance* to the requirements of subsection (a) in the following areas:

1) Prevention of blowing debris;
2) Minimization of access to the waste by vectors;
3) Minimization of the threat of fires at the open face; and
4) Minimization of odors"

Section 811.314(b)(4)(C)

"4) The low permeability layer shall consist of any one of the following:

Board RCRA regulations that use an "equivalency" standard, reference to other specified requirements, and *do not* require Adjusted Standard proceedings. Onyx also agrees with USEPA that the "at least as protective" standard in Rule 258.4(c), which also requires a comparison to specific requirements in other rules, is the same type of equivalency standard as is used in the regulations cited by the Board.

Notably, the two sections of the regulations that the Board cites as requiring Adjusted Standards for an "alternative" compliance approaches both involve landfills handling 20 tons or less of waste per day. [4] In fact, the RD&D rule is consistent with this: Section 258.4(f) states that a landfill which handles 20 tons or less of waste per day is "ineligible" for an RD&D permit. Thus, the Board's own analysis confirms that the Board's RCRA regulations have recognized the Agency's authority to make equivalency determinations *without Adjusted Standards*, except in cases involving small landfills which are not subject to the same design, monitoring and corrective action requirements.

A) A compacted earth layer constructed in accordance with the following standards:...
B) A geomembrane constructed in accordance with the following standards: ...., or
C) Any other low permeability layer construction techniques or materials, provided that they provide *equivalent or superior performance to the requirements of this subsection.*"

[4] Section 811.310(e)

"Any alternative frequencies for the monitoring requirement of subsection (c) for any owner or operator of an MSWLF that disposes of 20 tons of municipal solid waste per day or less, based on an annual average, must be established by an adjusted standard pursuant to Section 28.1 of the Act and 35 Ill. Adm. Code 106. Any alternative monitoring frequencies established under this subsection (e) will:

1) Consider the unique characteristics of small communities;
2) Take into account climatic and hydrogeologic conditions; and
3) Be protective of human health and the environment."

9. USEPA Revised the RD&D Rule to Avoid Delegating Standard-Setting

USEPA narrowed the scope of the RD&D rule between issuance of the proposed rule and issuance of the final rule to avoid the charge that it was delegating "standard setting" to permitting authorities. In the preamble to the final rule, USEPA explained:

> "This modification of the proposal also responds to a comment asserting that the RD&D permit proposal would unlawfully delegate standard-setting authority to approved states. By narrowing the RD&D permit to specific criteria which do not already include variance authority, EPA further clarifies that it did not intend that the variance, or "waiver," authority as proposed would allow that the requirements themselves could have been waived altogether."

Furthermore, the USEPA rule prohibits the state permitting authority from issuing permits which differ in any way from the Part 258 regulations except as specified under the standards in new Section 258.4 (40 CFR 258.4). See 69 Fed. Reg. 13242 at 13252 which states:

> "Part 258 does not allow variances from ss 258.26(a)(1), 258.28(a) and 258.60(a)(1),(2) and (b)(1), except in accordance with today's rule, and therefore, EPA would not approve a state program modification incorporating authority to deviate from the requirements of these criteria in standard MSWLF permits. Unless and until EPA promulgates a rule incorporating any such changes into the federal criteria, after seeking comment, states would not be able to allow a new technology or method to be included in a MSWLF permit outside of the RD&D rule parameters."

10. The Board's Proposed RD&D Regulation Is Not Identical-in-Substance to the USEPA RD&D Rule and Therefore Exceeds the Board's Authority Under Sections 7.2 and 22.40 of the Act

Sections 7.2 and 22.40 of the Act authorizes a fast-track process for the adoption of Illinois regulations only for proposals that are "identical-in-substance" to federal regulations mandated to secure federal authorization under RCRA. As stated, the insertion of the Adjusted Standard procedure into the RD&D rule is contrary to USEPA's

intent to streamline the RD&D permit process and will create a cumbersome process with additional costs and barriers to issuance of RD&D permits.

The Board's proposed bifurcation of the decision-making is not required by the division of authority under the Act. Furthermore, a lengthy, two-tiered decision making process is not supported by the record of USEPA's decision in the substantive federal rulemaking or by any comment submitted to the Board in this rulemaking.

Onyx' Proposed Language

With the exception of the termination provision, Onyx recommends that the Board adopt the regulatory language proposed by the Illinois Environmental Protection Agency in its Comment on August 31, 2004. That proposal adopts the federal language verbatim except that it references the Agency as the permit authority. This will ensure that the regulations in Illinois are "identical-in-substance" to the federal regulations, streamline the permitting process and promote the development of bioreactor landfills in Illinois.

Onyx agrees with the Board that the Act does not allow the Agency to terminate a permit. Onyx believes the Board's proposed language on the termination of the permit is appropriate and substantively identical to the USEPA rule.

If the Board believes it is necessary to include a definition of "Research, Development, and Demonstration Permit" in the regulations it should simply refer to permits issued under the section containing the RD&D requirements.

Conclusion

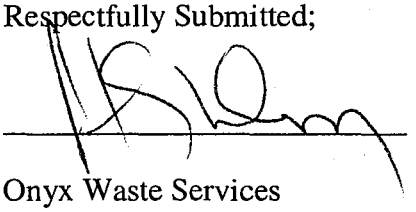
This is an "identical-in-substance" rulemaking for a federally prescribed rule that contains standards for permitting that are not unlike other Subtitle D permit standards.

After years of research and other "site specific" and "experimental permit" approaches, USEPA finally adopted standards for RD&D permits and thereby streamlined the procedure for issuance of RD&D permits. The Board's proposed creation of a bi-furcated decision-making process with multiple procedural hurdles will undo that streamlining and will hamper the development of state of the art bioreactor landfills in Illinois.

The adoption of the federal rule essentially verbatim will not give IEPA the latitude to allow "variances" from existing Subtitle D requirements. The only authority granted under the federal rule is the authority to issue permits that meet the performance standards stated in the RD&D rule. Those standards provide the Agency with the standards necessary to make engineering judgments in the permitting process and provide the Board with the necessary standards for the review of the Agency's permit decisions.

Based on the above, Onyx recommends that the Board adopt the RD&D rule as proposed by the Agency in its August 31, 2004 comment, with the exception of the termination provision.

Respectfully Submitted;



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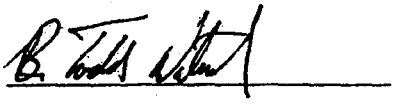

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ATTACHMENTS TO COMMENTS OF ONYX WASTE SERVICES, INC.

1. References: Bioreactor Research
2. Onyx Webpage
3. Resume of B. Todd Watermolen
4. *Sanitary Landfills 2003 – From Dry Tombs to Wet Bioreactors*, B. Todd Watermolen, P.E. and Gina Perugini, Onyx Waste Services, Inc.
5. Curriculum Vitae and Resume of John Baker
6. *Summary of Bioreactor Technology for MSW Landfills & Environmental Regulatory Status*, by John A. Baker
7. *Emerging Technologies for the Management and Utilization of Landfill Gas*, by Stephen Roe, Joel Reisman, Randy Strait, Michiel Doorn, February 1998
8. *Bioreactor Landfills: A Viable Technology*, by Edward W. Repa, Ph.D., October 2003
9. *An Introduction to Bioreactor Landfill Concepts and Design Concerns from a Regulatory Perspective*, by Robert J. Phaneuf, P.E., 2003 ASTSWMO State Solid Waste Managers Conference
10. *Landfill Bioreactors: A New York State Regulatory Perspective*, by Robert J. Phaneuf and John M. Vana
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