Achieving the Potential of Bioreactor Landfills

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US EPA Workshop on Bioreactor Landfills
Manager’s Guide
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Potential Benefits of Bioreactor Landfills

- Accelerated Waste Degradation
- Reduced Long Term Risks
- Extended Landfill Life
- Reduced Need for New Landfills
- More Efficient LFG Collection
- More Economical Leachate Treatment
Potential Drawbacks and Risks

- Potential Increased Gas Emissions
- Additional Costs
- Odors
- Leachate Seeps
- Side Slope Instability
- Potential for Fires
- Water Logging
The Goal of R&D Efforts

- To achieve the potential benefits of bioreactor landfills while minimizing and controlling the drawbacks and risks.
Bioreactor Technology Issues

- Water Distribution and Recirculation
- Alternative Daily and Intermediate Covers
- Landfill Gas Control
- Landfill Stability
- Waste Preprocessing
- Alternative Final Caps
- Stabilization End Point
Regulatory Barriers to Bioreactor Landfills

- Subtitle D Dry Tomb Regulatory Philosophy
- Liquid Restrictions
- Timing for Placement of Final Cap
Overcoming the Regulatory Barriers to Bioreactor Landfills

- Recognizing Bioreactors in Federal Regulations
- NESHAPS Definition and Early Gas Monitoring Requirements
- Continue Project XL
- Allow States to Issue RD&D Permits
Certification of Designers and Operators of Bioreactor Landfills

- A new and complex technology
- Need to assure competent designers and operators
- Certification of designers and operators can help assure competence
- SWANA currently provides certification in seven disciplines
Certification of Designers and Operators of Bioreactor Landfills

- Certification: individuals with necessary experience and education demonstrate competence by passing a certification exam.
- Exam tests for necessary knowledge skills and abilities
- SWANA is willing to take the lead in developing a bioreactor certification
Composting and Bioreactor Landfills

- Are complimentary components of integrated MSW systems
- Composting of clean source separated organic wastes should be encouraged
- Current composting level is only 5%
- Bioreactor landfills hold promise for better management of those wastes that are not or will not be composted
Conclusions

- Bioreactor landfills hold the potential for significantly improving SWM
- Technology issues need to be addressed to maximize benefits and reduce drawbacks and risks
- RD&D should be encouraged and promoted by Federal and State Agencies
For More Information

- SWANA 26th Annual Landfill Gas Symposium, Tampa, FL. March 24-27, 2003
- www.swana.org