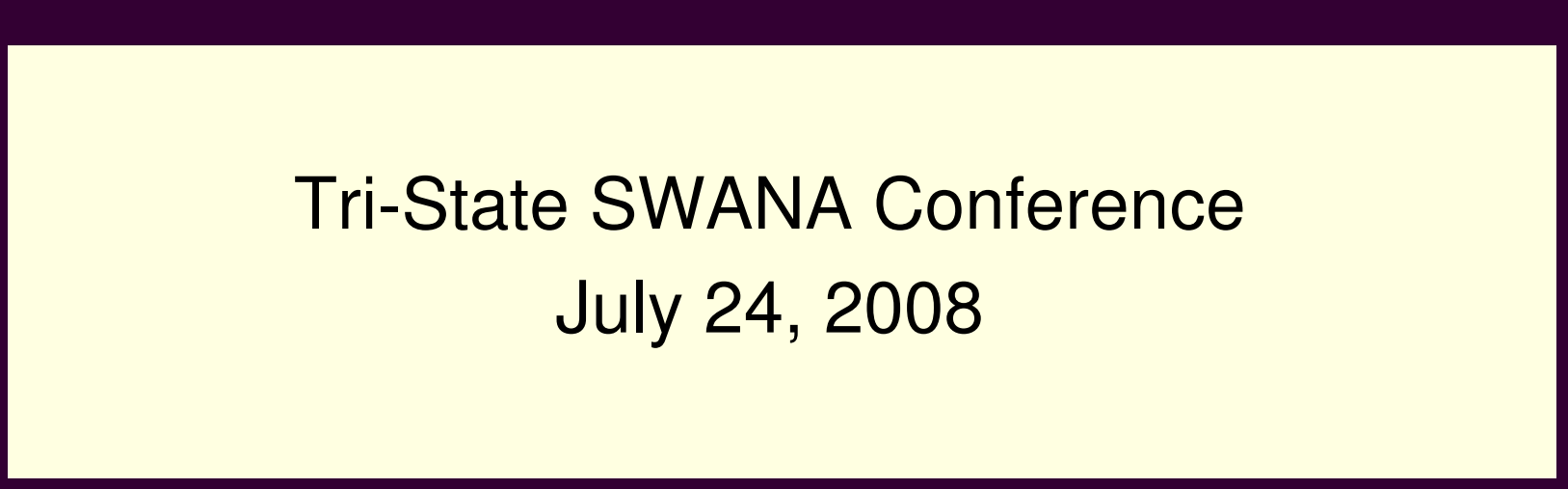




Bioreactors: Regulatory Status



Tri-State SWANA Conference
July 24, 2008

Overview

- Regulatory History
- Data Gathering
- Research, Development and Demonstration Rule
- State Data Sharing Effort
- Next steps

Regulatory History (RCRA)

- Federal Landfill Criteria: 40 CFR Part 258 issued in 1991
 - Bioreactor technology considered
 - Dry tomb approach selected
- Flexibility provided to Approved States
 - All 50 States are approved

Recent Efforts to Gather Data

- Project XL (www.epa.gov/projectxl)
 - 4 sites: 1 in CA, 2 in VA and 1 in NC
- ORD Research – CRADAs at Outerloop and Polk County (Ongoing)
- Bioreactor Forum (Feb. 2003)
- Research Development and Demonstration Rule (March 2004)
- Bioreactor Performance Summary Paper (August 2007)

Clean Air Requirements

- National Emission Standards for Hazardous Air Pollutants for Landfills. 2003
 - Maximum Achievable Control Technology (MACT) standards for bioreactors
 - Bioreactors defined: average moisture content of 40% by weight
- New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills 1996

Research, Development & Demonstration Rule

- Allows APPROVED States to grant variances in 3 areas:
 - Run-on control systems
 - Liquid restrictions
 - Final cover requirements
- 3 year permit with renewals allowed up to 12 years
- Annual report required to be submitted to the State.

State RDD Approvals

- Interested States apply to EPA Regional Office for Approval. Submit applicable regulations for review.
- Eight States Have Approval: MN, IN, WI, IL, MI, MO, CA, NE
- Expressed interest: OH, IA, AZ, NY, VA, DE, PA

State Data Sharing

- Region 5 initiated an effort to support state data sharing
- Initial call held March 2008. Next call in 12/08.
- Status of permits
 - MN: 1 RDD permit issued in 2006
 - WI: 5 RDD plans approved
 - MI: 1 RDD permit issued
 - MO: none (1 under review)
 - NE: none
 - IL: none (several applications received)

State Data Sharing

- Participating States agreed to share annual reports with EPA
- Agreement on major questions to address in annual reports. Questions relate to:
 - Overall performance
 - Groundwater
 - Surface water
 - Gas management
 - Liquid feedstocks

Next Steps

- RDD 12 year clock is ticking in states that have issued permits!
- EPA is continuing to collect and evaluate data.
 - Office of Solid Waste is evaluating 258 Compliance at federally-approved bioreactors.

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