GSI W-10 Webinar Entitled:

"Wet (Bioreactor) Landfills for Rapid Degradation of MSW Organics"

Webinar Overview

In contrast to keeping a municipal solid waste landfill as dry as possible, the wet (or bioreactor) concept is to purposely introduce liquids so as to rapidly degrade the organics in the waste mass. Such practice has technical and financial advantages and is allowed by most state regulatory agencies. The various strategies (leachate recirculation, anaerobic bioreactor and aerobic bioreactor) will be explained, as well as methods for adding liquids to the waste. Most importantly, design implications and/or concerns will be explained. They include liner integrity, leachate collection and removal systems, filter and protection layers, daily cover, final cover and waste stability concerns. All are critical insofar as a successful outcome is concerned. The conclusion will include specific design recommendations.

Learning Objectives

Participants will become familiar with the concept and practice of wet (or bioreactor) versus dry landfilling. The basic objective is to rapidly degrade the organics in the solid waste leading to a sustainable landfill, i.e., outputs managed, residue nonthreatening, long care is avoided and future site use is possible. The practice does, however, require care insofar as design and operations practices are concerned. These issues are explained via several "worked-out" numeric examples such that the practice of liquids additives can be done in an environmentally safe and secure manner.

Webinar Benefits

1. Understand the concept of wet (or bioreactor) landfilling
2. Understand the shortening time frames to achieve waste sustainability
3. Understand the various methods to add liquids so as to achieve the objective
4. Learn about seven specific design requirements in accomplishing a successful end result
5. Learn about the environmental concerns and how to properly mitigate them

Intended Audiences

Public and private owners/operators of landfills and related solid waste facilities; consultants and designers in the private and public sector; regulators and agency personnel at the federal, state and local levels; geosynthetic manufacturers and their representatives; geotechnical and geosynthetic testing organization personnel; contractors and installers of liner and cover systems; academic and research groups; and others desiring technically related information on this important aspect of our constructed environment.

Specific Topics Covered

1.0 Liquids Management Strategies
2.0 Concepts of Waste Degradation
3.0 Methods of Adding Liquids
4.0 Design Implications and/or Concerns
5.0 Performance-to-Date
6.0 Conclusions and Recommendations

Webinar Instructor

Dr. Robert M. Koerner's (Professor Emeritus of Civil Engineering at Drexel University and Director Emeritus of the Geosynthetic Institute) interest in geosynthetics spans over thirty years of teaching, research, writing and advising. He holds his Ph.D. in Geotechnical Engineering from Duke University. He is a registered Professional Engineer in Pennsylvania, a Distinguished Member of ASCE, a Diplomate of the GeoInstitute and a member of the National Academy of Engineering. Bob has authored and co-authored about 650 papers on geosynthetics and geotechnical topics in journals and at national and international conferences. His most widely used publication is the sixth edition of the textbook entitled *"Designing with Geosynthetics"*. He is the founding director of the Geosynthetic Institute which is a nonprofit research and development organization dedicated to the proper use of geosynthetics in its myriad applications. The institute also provides laboratory accreditation and inspection certification programs.