GSI W-35 Webinar Entitled:

"Geomembranes used as Hydraulic Barriers"

Purpose and Background

By 2040 it is estimated that two billion people (25% of the world's population) in 60 countries will have inadequate fresh water. This alarming prediction suggests that water must be hydraulically transferred from locations of excess to those in need. This webinar will make the point that geomembranes (but also GCLs) will play a pivotal role in this regard. From waterproofing all type of dams, to canals, to reservoir liners and covers, to tunnels and then to pipelines, the webinar proceeds in like manner.

Each specific application is explained and illustrated insofar as the latest technology is concerned. Even bold new initiatives of fresh water being transported by sea in mega-geomembrane bags will be illustrated.

Each section of the webinar has its own summary leaving a conclusions and recommendation section for the end. Here the state-of-the-practice will be presented along with the suggested "key to acceptance" status being mentioned.

Learning Objectives

Since everyone is aware of the inadequacy of fresh water in many areas, along with an abundance in other areas, the storage/distribution/transportation of it over long distances without leakage becomes critical. This webinar focuses directly on the geosynthetic options that are involved. Participants will learn about waterproofing of existing and new dams as well as parallel applications with canals, reservoir liners, reservoir covers, tunnels and pipelines. The current status of these myriad applications will be presented from the perspectives of market penetration, obstacles to use, incentives and level of acceptance.

Webinar Benefits

- Learn of the statistics of the fresh water crisis
- Learn about waterproofing of existing and new dams
- Learn about waterproofing of existing and new canals
- Learn about waterproofing of reservoir liners
- Learn about floating covers for reservoirs
- Learn about waterproofing existing and new tunnels
- Learn about different methods for trenchless pipe construction and remediation

Intended Audiences

Public and private owners of dams, canals, reservoirs, tunnels and pipelines insofar as our hydraulic infrastructure is concerned. Federal, state and regional hydraulic, geotechnical, and geoenvironmental engineers; engineers from municipal districts and townships; private and municipal land developers; general civil consulting engineers; testing laboratories servicing these organizations; manufacturers and representatives of geosynthetic materials; contractors and installers of geosynthetic materials; academic and research groups; and others desiring technically related information on this important aspect of our hydraulic infrastructure.

Specific Topics Covered

1. Background
2. Waterproofing of Dams
3. Canal Linings
4. Reservoir Linings
5. Reservoir Covers
6. Tunnels and Pipes
7. Conclusions and Recommendations

Webinar Instructor

Dr. George R. Koerner is the director of the Geosynthetic Institute, a position that he has held since 2014. George's interest in geosynthetics spans his entire professional life from undergraduate work in the 1980's to the present. He holds his PH.D. in Civil, Architectural and Environmental Engineering from Drexel University in Philadelphia. George's master thesis was on direct shear testing of geosynthetic interfaces and his doctoral dissertation was on landfill leachate clogging of soil and geosynthetic filters. Both are regularly cited to this day.

Dr. George Koerner is a Professional Engineer in both Pennsylvania and New Jersey, and is an ASQC Quality Auditor. During his 30-years of geosynthetic activities, Dr. Koerner's output has been tremendous and he has to his credit the following publications:

- Books Edited or Co-Edited – 15
- Journal Papers – 18
- Symposium and Conference Publications – 40
- Book Chapters and Published Reports – 4
- Miscellaneous Articles – 30

The Geosynthetic Institute is a nonprofit research and development organization dedicated to the proper use of geosynthetics in its myriad applications. As director of the Geosynthetic Institute, Dr. George Koerner is also in charge of the laboratory accreditation and inspection certification programs.