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When: January 19, 2011, Wednesday
5:45 PM – 6:15 PM Social time/Dinner
6:15 PM Start of Presentation

Where: Kentucky Engineering Center

Topic: Vibration Monitoring, Mitigation, and Litigation: Theory and Practice

Speaker: Michael E. Kalinski, Ph.D., P.E.; University of Kentucky Department of Civil Engineering

Dr. Kalinski's presentation will provide an overview of vibration monitoring, mitigation and litigation. Soil dynamics deals with the understanding of ground-borne vibrations, including how they are generated, how they propagate, and their potential impact on structures. Whereas earthquake engineering deals with the effects of earthquake-induced strong ground motion, soil dynamics generally addresses the effects of manmade vibrations, which may be generated by construction activity, mining, or petroleum exploration. Over the past 25 years, Dr. Kalinski has been involved in all aspects of soil dynamics and vibrations, including the generation and measurement of vibrations, the development of methods to reduce the effect of vibrations, and providing technical observations in legal cases where vibration-induced damage or loss of life has occurred. His presentation will include an overview of each of these three aspects of vibrations, along with case studies and guidance on how to proceed when assessing vibration-related problems. A discussion on vibration standards, which are widely used and sometimes misused to judge whether excessive vibrations have occurred, will be included as well.

Michael E. Kalinski, Ph.D., P.E. received his B.S. in Geophysical Engineering from the Colorado School of Mines in 1985. From 1986 to 1991, he worked as an exploration geophysicist for Tenneco Oil and Shell Oil acquiring, processing, and interpreting reflection seismic data along the Gulf Coast. He attended the University of Texas at Austin from 1992 until 1998, where he earned his M.S. and Ph.D. degrees in Civil Engineering under the direction of Dr. Kenneth H. Stokoe. After receiving his Ph.D., he spent one year at the Norwegian Geotechnical Institute in Oslo as a research fellow developing advanced surface wave testing techniques, and two years with GeoSyntec Consultants in Huntington Beach, California as a geotechnical engineer performing seismic analyses of existing landfills.

Dr. Kalinski joined the University of Kentucky as an Assistant Professor in January 2002, and was promoted to Associate Professor in July 2007. His research interests include engineering geophysics, geotechnical earthquake engineering, vibration monitoring and mitigation, and management of coal waste by-products. In 2005, Dr. Kalinski was awarded the prestigious NSF Early Faculty Career Award for research on understanding and predicting the dynamic behavior of mine tailings dam materials. He co-authored the *Journal of Performance of Constructed Facilities* Outstanding Paper of 2007. In 2008, Dr. Kalinski received a Great Teacher Award from the University of Kentucky Alumni Association. In

2010, he was appointed as the Hardin-Drnevich-Huang Professor of Civil Engineering. Dr. Kalinski currently teaches an undergraduate course in soil mechanics, and graduate courses in landfill design, geotechnical earthquake engineering, and groundwater/seepage. He is a Registered Geophysicist in California and a licensed Professional Engineer in California, Kentucky, and Texas.

Next KGEK Meeting:

February 15, 2011 – Steven Koch, PE

KGEK DUES:

KGEK dues of \$10 are now due for next year. Our dues run from October to October. Send checks payable to KGEK to Daniel Gilbert, Stantec, Inc., 1409 North Forbes Road, Lexington, KY 40511-2050