often less for applications where only a short back-up time is required, such as the transition to a backup diesel generator. One example is a USACE facility featuring the major expansion of a data center, where a new second floor would have required significant structural shoring to support the weight of a battery-powered UPS system. Instead, two flywheels, which weighed less and required less space, were installed. *(Contributed By Henry Vere, Distributed Energy)*

New In-Situ Injection System Demonstrated

A new in-situ injection system has demonstrated significant advantages over traditional injection methods. This system, developed by Badger Injection Solutions LLC, is based on the traditional direct-push injection technology, but has several enhancements, particularly with top-side injection equipment and the down-hole injection port tooling. These enhancements provide improved horizontal distribution and influence of directional injection of materials; dual-phase injection for catalysts; multiple port injection of up to four separate products simultaneously; the ability to use slip-stream injection for fragile microbial injections; ability to feed numerous injections locations completed at the same time; and numerous system control and monitoring improvements.

By using lateral, horizontal injection tooling rather than the tips used in traditional, direct-push methodology, the injection can be done either "top down" or "bottom up," accessing usual diffusion limited pore space without creating preferential flow paths.

Badger Injection Solutions

This technology has been effectively demonstrated at Kennedy Space Center, Fla., and used at several Air Force sites, with injection rates of up to 50-gal-per-minute and a radius of influence up to 20-ft. This exceeds traditional commercially available technologies. The technology and processes provide for expansive distributions of a wide range of injection materials with varying viscosities, specific gravities and properties. The system has resulted in increases in distribution by more than 50 percent and decreases in site time of more than 60 percent.

Visit www.badgerinjection.com/default.asp for more information.

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