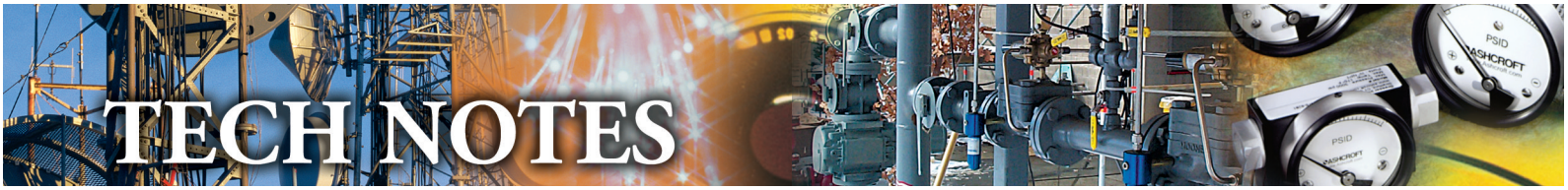

Enbridge Introduces New Rotary Tool For Improved Pavement Repairs

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Enbridge Technology Inc. (ETI), the technology arm of Enbridge Inc., a leader in energy transportation and distribution in North America and internationally, recently showcased the latest tool in its keyhole technology maintenance and repair arsenal at the first annual conference of the Gas Technology Institute held in Orlando, FL from Sept. 29 to Oct. 3, 2002—Rotary Coring and Reinstatement.

Developed and field-proven by Enbridge Consumers Gas, one of North America's oldest gas distribution companies, this process, which cores an 18-inch circular hole through all types of paved or hard surfaces and then reinstates the core for a permanent pavement repair, has been used by Enbridge for more than eight years, facilitating the cost-effective keyhole maintenance and repair program. Typical keyhole applications include: anaerobic joint repair of cast iron pipe, low pressure service cut-offs, main separations, anode insertion for cathodic protection, service tee removal and replacement and general daylighting or potholing for new pipe installations using horizontal directional drilling.

Successfully employed without a single failure on more than 3,000 excavations in and around Toronto, Canada (population 2.5 million), under the most severe of climatic conditions, the process has been formally accepted and certified by municipal authorities as a permanent reinstatement of composite pavement, saving the utility more than $5 million in paving costs.

"It's an undeniably better mousetrap," said John Medeiros, Senior Technical Advisor at ETI. "It was developed from the ground up by field-level personnel looking for a more effective and efficient way to access buried plant and equipment," he said. "The fact that its cost can be recovered in six to eight weeks from savings on paving costs and road cut fees is a bonus for utility companies looking for ways to reduce maintenance and repair costs."

At the same time, Enbridge also announced a strategic alliance with Utilicor Technologies Inc. of Toronto. Utilicor becomes the exclusive manufacturer and distributor of the rotary coring unit, responsible for both the distribution and sale of the unit and the proprietary bonding compound called "Utilibond". Utilibond is an integral part of the permanent pavement reinstatement process and has a proven bond strength that is capable of supporting the combined weight of six transit buses.

The rotary cutter can cut an 18-inch circular hole in flexible, composite and reinforced concrete pavement systems.

Gord Reynolds, who joins Utilicor as vice president of operations after five years with Badger Daylighting, one of North America's largest vacuum excavation firms, says the rotary cutter and rehabilitation process is the most cost-effective breakthrough in excavation since the introduction of vacuum excavation in the early 1990s.

"The unit can core through any hard surface—including concrete reinforced with half-inch rebar—and allows us to open up the hole in less than 15 minutes, retain the core or coupon, and then permanently reinstate the road or sidewalk within 45 minutes," Reynolds said. "Instead of an average of two keyhole repairs per day using the old methods, a typical two-man crew can do four or five and you don't have to revisit the site later on with paving crews. It's all done in one day. The savings in time and scheduling, as well as cost, are tremendous."

The coring process, now called "Utilicoring," is also used by Michigan Consolidated Gas (MichCon), America's ninth-largest gas distribution company with more than 1.2 million customers, and by UGI, a medium-sized gas company serving the Lehigh Valley of Pennsylvania. Baltimore Gas & Electric, with almost 500,000 customers and Nicor Gas of Chicago, the third-largest local gas distribution company in the U.S., with more than 1.7 million customers, also have purchased Rotary Coring units.

The principal element of the Enbridge solution is a truck-mounted, rotary cutting unit (patent pending) that cuts an 18-inch circular hole in flexible, composite and reinforced concrete pavement systems or sidewalks. No jackhammers or backhoes are required and no spoil or debris that must be disposed of is created. The core of pavement is removed in one solid piece and set aside for reuse. The utility then vacuum excavates the hole down to the pipe and performs the repair from the surface using special long-handled tools in a manner that mirrors laparoscopic or microsurgery in the medical field.

Once the repair has been completed, the hole is backfilled to the level of the base of the pavement and the core or "coupon" of pavement is reinserted back into the road surface where it is permanently bonded to that surface by a special proprietary bonding compound ("Utilibond"), which creates a bond stronger than the original pavement. No temporary patching or repaving of the site is required. Forty-five minutes after the repair has been completed the road can be opened for traffic.

Not only are the keyhole processes inherently safer, faster and less disruptive of traffic, environmentally friendly, and easier on the workers, but the increased productivity and the reduction in reinstatement and repaving costs and road cut fees can save the utility thousands of dollars per hole. It is a one-stop continuous repair and reinstatement process that leaves the roadway in as strong and stable a condition as the day it was first constructed. ***P&GJ***