

TESTIMONIAL

Consolidated Edison Company of New York Takes Pipe Safety to a New Dimension

*By Natalino Giraldi, Consolidated Edison Co. of New York, Inc.
Gas Environmental Health and Safety*



The current tracer wire used industry wide is a 12 or 14 gauge copper wire with a nylon PVC coating. Over time, this wire can deteriorate due to moisture and ground elements, ultimately exposing the copper. When this happens, the locate signal is lost resulting in mismarks by one call or no trace whatsoever. One disadvantage to this is the costs incurred for multiple restorations which can be quite expensive. Another is contractor, company and residential damages to facilities with catastrophic results in some instances. In my experience, it has been virtually impossible to install tracer wire due to the magnitude of force needed for the installation of HDPE (high-density polyethylene plastic) via trenchless technology. This is due to the pulling force ranging from 50 to 65 tons. It is in these instances that the tracer wire is sheared off making it difficult to perform a mark out of the utility installed.

In the past, utilizing trenchless methods of installing plastic pipe through gas mains, pipe locating was established on the metals left in place after performing pipe bursting or pipe splitting. Recognizing the industry growth of trenchless technology methods due to the cost savings associated with it, the methodology of utilizing Neptco's Trace-Safe wire gave birth to a process which has proven to be successful. The **Trace-Safe wire (Polymer Fiber Reinforced 19 Gauge Copper)** after installation provided a 720 kHz reading. The traditional 12-14 gauge wire provided a reading of 415 kHz to 435 kHz. This method of install can be applied to installations of HDPE for gas, water, sewer, electric and other utility installs using HDPE.

Identifying and locating underground utilities is essential to employing safe operating procedures. An accurate utility survey provides confidence and gives a sense of security. Through vigorous testing, Natalino Giraldi, Sr. Specialist in Environmental Health and Safety with 22 years of Gas construction experience at Consolidated Edison, successfully completed installations of HDPE via trenchless methods such as Consplit, PIM, Hole Hogging, and

Directional Boring utilizing Neptco Tracer Wire known as Trace-Safe. The application method was applied in various locations consisting of many different types of ground elements such as rock, clay soil, sand, and a mixture of dirt and rocky conditions. The Trace-Safe wire performed to expectations. Trenchless main installations of HDPE utilizing existing steel and cast iron pipes ranging from 350' to 500' were performed. The Trace-Safe wire was permanently attached to the HDPE and pulled in simultaneously with the carry pipe. This provided us with the capability of precise mark out locations therefore positively reinforcing our mains mapping system.

Natural gas distribution has become an important utility and a key provider for heat around the world. Maintenance and repair of natural gas lines can be very important due to the potential for gas leaks, and the critical importance to customers of natural gas in continued supply for many uses, such as cooking, air heating, water heaters, clothes dryers, etc. Similarly, distribution systems for other utilities (including water, sewer, or electric) also need to be repaired or replaced. The gas lines of most utilities are buried along streets that also include other utilities. Often, to repair a damaged or clogged gas line, such as a gas main or branch, a hole must be excavated and the pipe checked or replaced.

Currently, the technology to determine the exact locations of the gas mains, especially at elevated pressures, in a confident manner does not exist. One reason is that most gas lines are now made from HDPE which is very difficult to locate underground. Some technicians are trained to approximate where the gas lines are and provide mark outs on the ground where the gas line should be. The mark outs, even when provided, are based upon map accuracy and the expertise of the technician. The technician often picks up other utilities normally running alongside gas mains which the gas repair crews do not want to disturb. Often, errors in the mark outs can still be off by as much as 3 to 4 feet, which causes extra time and effort in excavation and avoiding other utilities, along with added costs in repairing roads and service delays. The application method, along with the utilization of Trace-Safe tracer wire, will improve the methodology and provide needed measures that can more precisely identify underground high-density polyethylene plastic safely, efficiently and economically.

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[NEPTCO, Inc., A Chase Corporation Company | 30 Hamlet Street, Pawtucket, RI 02861 | USA](#)

[800.354.5445 | 401.722.5500](#)