Northeast GAS ASSOCIATION
NYSEARCH

Technology Brief

Expanding the Functions of No-Blow Tools

Description: **Develop a No-Blow Tool Kit to eliminate venting gas in most low pressure routine gas work for 4"– 12" pipelines.**

Status: **Some products are commercially available such as the No-Blow Tool Kit. Additional applications are under development.**

BENEFITS

The No-Blow Tool concept is built around the need to eliminate the venting of natural gas during routine distribution work. This results in several important benefits to gas operators and the general public. In an age where safety is paramount, eliminating risks associated with working near or in a gaseous environment improves worker safety and helps to reduce greenhouse gas (GHG) emissions. Additionally, elimination of venting gas helps to assure that gas service to customers is safely maintained due to loss of service that could potentially result from a sudden drop in pressure.

BACKGROUND

NYSEARCH has identified the need to develop and demonstrate a variety of No-Blow Tools technologies. The No-Blow Tool program is built around improving common distribution practices that previously allowed natural gas to vent to the atmosphere while routine work is being performed. NYSEARCH is working with ULC Robotics to develop several No-Blow Tool applications, in part, based on work previously completed by Con Edison and National Grid (Figure 1).

Figure 1: No-Blow Tool Kit

It has long been common practice for gas distribution companies to allow gas to vent during routine pipeline maintenance activities. In fact, standard operating procedures often permit or indirectly require gas to vent while performing everyday work on pipelines. Some routine tasks during which gas is commonly allowed to escape include: Tapping Holes, Installing/Removing Stoppers, Bypass Piping, Pipe Plugs and Service Tees (Figure 2). For example, low pressure flow tests of gas mains are performed daily by gas companies. This ensures that a two-way gas feed is present prior to stopping the flow of gas when emergency and maintenance work is performed. During the flow test process, a considerable amount of gas is vented into the atmosphere.

Methane is one of the greenhouse gases which contribute to global warming and is thought to be responsible for nearly as much global warming as all other non-CO2 greenhouse gases combined. Eliminating venting or blowing gas can help to reduce the carbon foot print and improve the environment by lowering levels of GHG emissions.

TECHNICAL APPROACH

The goal of the program is to design, develop and field test No-Blow Tools technologies to work on 4" through 12" cast iron and steel low pressure mains. The primary objective is to perform routine distribution work without the need to vent gas to the atmosphere. The performance criteria for No-Blow Tools includes: ease of use, long service life and the ability to be readily integrated with existing tools and equipment.

The initial phase of the program included researching member companies to develop No-Blow Tool kits that would best serve their needs. ULC designed and built the tooling, adapters,

Figure 2: No-Blow Tool Plug Insertion

and customized fittings and packaged them in a rugged carrying case which includes a parts/ description list and operating instructions. In addition to the tools originally developed for Con Edison, the companies identified several new tool applications.

A total of (12) kits were built and distributed to (5) member companies. ULC provided the initial training to introduce the No-Blow Tool applications and benefits. The new No-blow Tools included a magnetic chip sweeper to remove metallic particles during the hole tapping process; installation of line stoppers and bags for low pressure, steel, cast iron and PE pipe; and tapping holes and inserting line plugs for routine pipeline work. Demonstrations and training for each company were provided to complete the initial program.

After completion of the initial program, two additional No-Blow Tools were developed for Con Edison and National Grid: 1) a bypass flow test system for low pressure pipelines and 2) a PCB pipe sampler tool that will allow no-blow access into a pipe allowing a PCB swab sample to be taken (Figure 3).

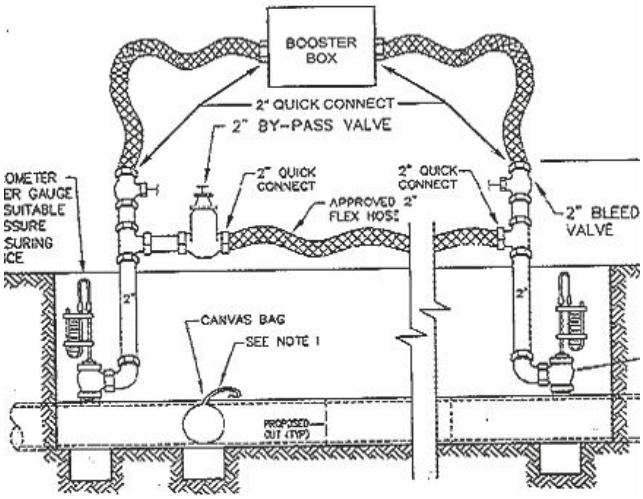

Figure 3: Schematic No-Blow By-Pass

PROGRAM STATUS

The initial phase of the program is complete with (12) No-Blow Tool Kits distributed to member companies to use in day-to-day operations. The No-Blow By-Pass Vent System and PCB Sampler are being developed.

Highlights

- Creates safe "no-blow" process (no gas venting)
- Eliminate the need to vent gas
- Applies to most 4" - 12" pipe work
- Supports GHG initiatives
- Improve worker safety
- Adapts to standard equipment
- Works at operating pressure of ¼ psi

For more information contact:
admin@NYSEARCH.org