



Safety Information Notice

July 2003

TSSA Focused on Improving Natural Gas Line Safety in Ontario

As Ontario's fuels safety regulator, the Technical Standards and Safety Authority (TSSA) is playing a key role in investigating the cause of the natural gas explosion that occurred at 3385-3387 Bloor Street West in Toronto on April 24, 2003. Our special investigators are working closely with the Ontario Coroner's Office, City of Toronto officials, the fire services, police, utilities, and others to take the appropriate measures to prevent a incident such as this from happening again.

TSSA is authorized by the Ontario government to regulate the safe transportation, distribution, storage, handling and use of hydrocarbon fuels, such as natural gas, under the provincial *Technical Standards & Safety Act*. Under this Act, it's against the law to dig without having natural gas lines located. Excavators must contact the appropriate utility who sends out their locator to accurately mark the presence of underground equipment.

Our fuels safety inspectors investigate situations reported to TSSA where contact with underground gas lines has resulted in injuries, property damage, environmental impact, or significant public safety concerns. Where there are serious examples of unsafe activity, TSSA inspectors have the authority, as provincial offences officers, to issue orders, directives and administrative penalties to ensure compliance with safety laws.

TSSA can also lay charges and prosecute individuals and companies who have committed serious offences under fuels safety laws. Maximum penalties under the Act are \$50,000 per count for individuals and \$1,000,000 for corporations.

The majority of reports of contact with underground pipelines brought to our attention over the last several years were minor in nature and the result of improper excavation practices. They involved homeowners and contractors digging a garden, landscaping or excavating a patio area or pool area who have failed to call their natural gas utility before digging and have scraped or damaged underground gas lines. Annual safety statistics compiled by TSSA reveal that human error is responsible for the majority of natural gas pipeline incidents in Ontario each year. The causes include:

- Failure to locate buried natural gas pipelines prior to conducting excavation work;
- Failure to follow safe guidelines when working in the vicinity of buried natural gas pipelines; and
- Inaccurate locates for buried natural gas lines provided to individuals/companies before conducting excavation work.

TSSA has made the reduction of pipeline hits a top priority since taking over responsibility for delivering fuels safety programs and services in 1997.

We believe that the key to preventing natural gas pipeline incidents is effective enforcement activity combined with greater safety education and training for workers and the public who are working with, or near natural gas pipelines. Key safety improvement activities have included:

- Significantly increasing the number of Fuels Safety inspectors in Ontario from 19 in 1996 to 34 in 2003 to enhance enforcement activity and improve compliance with Ontario safety laws.
- The founding of a working group called the Ontario Region Common Ground Alliance comprised of members representing Ontario utilities, contractors and industry associations. The Alliance conducted a research project in 2001 involving excavation contractors working in the vicinity of natural gas pipelines. Results were used to assist in the development of an overall prevention strategy, which includes targeted training and excavator education programs for excavation contractors.
- TSSA delivered safety information seminars to over 2,100 excavators in Ontario in 2002. The program is being further expanded this year in 2003 to reach an even greater number of excavators.
- The creation of the ***“Guidelines for Excavation in the Vicinity of Gas Lines”*** guide that was distributed to over 20,000 excavators over the last year. The guide outlines proper excavation procedures and lists what safety precautions should be taken before excavating in an area where gas lines may be buried.
- In addition to regular enforcement, TSSA introduced an Administrative Penalties Program in 2002 that allows TSSA to impose immediate fines of up to \$5,000 for non-compliance with fuels safety laws.

If you are planning to dig a garden, landscape or fence your lot, excavating for a pool, deck or a new addition, please contact **Ontario One Call Ltd.** before you dig and take advantage of the free gas pipe location service. Ontario One Call, a state of the art call centre that processes locate requests and forwards the information to the underground utility company, was created to promote safety and reduce damages to underground equipment in the province. To arrange for free natural gas pipe location service, contact:

Ontario One Call -- Tel: 1-800-400-2255 Fax: 1-800-400-8876 Web: www.on1call.com

You can also visit TSSA's Web site at www.tssa.org to view and download an electronic version of the ***“Guidelines for Excavation in the Vicinity of Gas Lines”*** guide.

TSSA is a not-for-profit, prevention-oriented safety organization that provides services to the public, including education; training and certification, engineering design review; inspection; investigation and prosecution. TSSA regulates safety in industry sectors such as amusement devices; boilers and pressure vessels; elevating devices; natural gas, petroleum, propane fuels and equipment; operating engineers and upholstered and stuffed articles.

For more information, please contact us at **Tel: 1-877-682-8772 Fax: (416) 325-2774**

Web: www.tssa.org



TSSA Information Backgrounder

How does TSSA regulate Fuels Safety in Ontario?

TSSA's Fuels Safety program regulates the safe transportation, distribution, storage, handling and use of hydrocarbon fuels in Ontario. Fuels, regulated by TSSA, consist of two main types: *gaseous fuels* (propane and natural gas) and *liquid fuels* (gasoline, diesel and fuel oil). The Fuels Safety program addresses aspects of industrial, commercial and residential use of fuels and affects a wide spectrum of Ontario's population.

TSSA works to protect the public, property and the environment from hazards associated with the use of fuels including spills, fires and explosions. We also license fuel facilities, register contractors and certify tradespeople who install and service equipment. Additionally, TSSA reviews facility plans and reviews and approves standards for all equipment and appliances. Our inspectors issue safety instructions and directives to individuals and companies whose procedures and equipment are not in compliance with Ontario fuels safety laws, investigate incidents and shut down unsafe equipment and facilities.

TSSA's fuel safety programs and projects are directed to reducing incidents through public and industry communications, education, and training. Included are programs directed at homeowners, contractors, distributors and storage facilities.

How does the investigation and reporting process work?

TSSA conducts investigations of all reported incidents in which there have been injuries, property damage, environmental impact, or significant public safety concerns.

We analyze information from all investigations and take corrective actions based on identified trends. We also receive aggregate data from industry sources on all incidents. All incidents, no matter how minor, are important to TSSA because they allow us to identify trends and safety concerns that might otherwise go undetected.

Three principal sources report to TSSA on fuel-related incidents, both directly and indirectly:

- ✓ Clients, stakeholders or third parties involved in or having knowledge of an incident;
- ✓ The provincial Spills Action Centre (SAC), an important TSSA safety partner, which receives incident reports on behalf of authorities including TSSA, the Ontario Ministry of Environment, the Ontario Ministry of Labour, and others;
- ✓ Natural gas distributors, who receive reports of contact with pipelines and similar incidents involving damage to distribution systems during excavation work.

How do you report an incident?

The Ontario Ministry of the Environment's Spills Action Centre, staffed on a 24-hour basis, receives and records province-wide reports of fuel spills, leaks and other environmental emergencies and co-ordinates appropriate responses.

Please report any incidents to the Spills Action Centre at:

Toll Free: 1-800-268-6060

Tel: (416) 325-3000

Fax (416) 325-3011

How many pipeline incidents occurred in Ontario last year?

In 2002, natural gas distributors reported over 4,600 pipeline incidents. Many of these reports of contact with underground pipelines are not considered serious. However it is essential that all be recorded to assist us in identifying where the problems are and taking appropriate action.

TSSA conducted field investigations into over 500 of these pipeline incidents that involved injuries, property damage, environmental impact, or significant public safety concerns. Human error continues to be a key factor in all types of fuel-related incidents investigated by TSSA. In 2002, natural gas pipeline damage (inadvertent damage to underground pipelines during excavation work) accounted for 57% of all fuel-related incidents investigated by TSSA.

Serious injuries and fatalities resulting from natural gas explosions are rare. Excluding recent events, in which the cause is still under investigation, there have been no fatalities or serious injuries as a result of a pipeline strike in the past five years.

Why does TSSA only investigate a fraction of the pipeline hits every year?

TSSA investigates all incidents where there have been injuries, property damage, environmental impact, or significant public concerns. However, our Fuels Safety Inspectors are not sent to investigate contact with an underground pipeline by a homeowner who was digging in their garden. A homeowner is highly unlikely to re-offend, and education is the more appropriate tool.

Why are there so many?

There has been a dramatic increase in development activities in the last few years. Any activity which disturbs the ground creates a potential for contact with a gas pipeline. This includes people who drive stakes into the ground, drill wells, dig gardens and excavate for roadways. For example, the number of annual requests for underground pipeline locates to gas utilities rose from over 300,000 in 2000 to approximately 400,000 in 2002. All of this additional activity increases the potential of contact with underground pipelines.

Does TSSA prosecute individuals and companies who damage natural gas pipelines?

TSSA prosecutes under provincial law when the circumstances warrant. Earlier this year, a Hamilton-area construction company charged by TSSA was fined \$45,000 for unsafe excavation practices which resulted in a house explosion in Dundas, Ontario.

Where there is serious examples of unsafe activity, TSSA has the authority to prosecute individuals and companies. Maximum penalties under the Act are \$50,000 per count for individuals and \$1,000,000 for corporations.

Prosecutions are one enforcement activity. Legal Orders are also used as an effective enforcement tool. Orders issued by our Fuels Safety inspectors legally require contractors to undertake specific actions based on the investigation of an incident. We have significantly stepped up our efforts to crack down on unsafe activity in and around underground gas lines. The number of Legal Orders issued has risen by over 1000% since TSSA became operational in 1997.

TSSA also introduced an Administrative Penalties Program in 2002 that allows TSSA to impose immediate fines of up to \$5,000 for non-compliance with fuels safety laws.

Is TSSA responsible for the safety of all gas pipelines in Ontario?

TSSA only regulates those pipelines under provincial jurisdiction. Pipelines which cross provincial boundaries fall under the jurisdiction of the National Energy Board.