

Incident Summary #II-2019876-2026 (#60509) (FINAL)

SUPPORTING INFORMATION	Incident Date		January 8, 2026	
	Location		Dawson Creek, BC	
	Regulated Industry Sector		Gas - Natural Gas System	
	Impact	Qty Injuries	2	
		Injury	Injury description	Two individuals were burned.
			Injury rating	Moderate
		Damage	Damage description	Fire and smoke damage occurred inside the residence, affecting the gas furnace, water heater, and surrounding wall surfaces in a small hallway enclave that housed both appliances.
			Damage rating	Moderate
		Incident rating		Moderate
	Incident Overview		In an occupied fully detached dwelling, a damaged gas furnace was being decommissioned to allow for installation of a replacement unit later that day. The damaged furnace and a gas-fired water heater were located close together in a small hallway enclosure inside the residence. Two unsupervised labourers began preparing the furnace for removal while the gas supply remained on. During this work, the labourers disconnected the appliance shut-off valve and removed the gas supply riser, resulting in the uncontrolled release of natural gas into the immediate work area. The escaping gas was subsequently ignited by the standing pilot light on the water heater, which was situated directly next to the furnace. A small explosion and localized fire followed. The fire was confined to the appliances and the surrounding wall area. Both labourers sustained burns during the Incident.	

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INVESTIGATION CONCLUSIONS	Site, System and Components	Description of Residential Worksite Conditions - The residential worksite was an occupied fully detached dwelling heated by a gas furnace (Image 3). - A gas-fired water heater with a standing pilot flame was installed beside the furnace. - The furnace and water heater were installed in very close proximity in a semi-confined enclave off the main entry hallway (Image 1). - The surrounding area was constructed with dimensional log materials. - The gas supply to the furnace originated from a vertical riser coming up through the floor and extended across the front of the appliances. Gas System - After regulation, the natural gas enters the home at approximately 7-11 inches water column measurement (w.c.) (0.25-0.4 psi). - Gas pressure generally remains at this approximate level throughout the home as it is distributed to individual appliances. Natural Gas Furnace The subject damaged gas furnace operated on natural gas supplied through a dedicated gas line. Gas passed through a manual shut-off valve and riser before entering an electronically controlled gas valve, which served as the primary control for fuel supply (Image 4). The riser was positioned such that it obstructed the physical removal of the furnace from the enclosure and needed to be removed. Shut-off Valves Gas appliances in dwelling houses typically have shut-off valves installed in the supply line ahead of each appliance. This manual safety device provides a reliable means to isolate and shut off an appliance for maintenance or emergency response. Live Capping This practice is known to be used in the plumbing and gas industries; however, it is contrary to regulatory requirements. It involves disconnecting and capping off a pressurized gas line in order to avoid shutting off the gas supply at an outside service valve. Doing so carries a high risk of gas leakage before the line can be re-sealed. In this case, the subject labourers attempted to use the live-capping method without taking into account the immediate hazard of the pilot light flame of the gas hot water heater located behind them in the confined worksite space. According to the Natural Gas and Propane Installation Code (CSA B149.1): - Maintenance on gas piping systems <u>must not be performed</u> while the system is under pressure, unless specifically permitted by code. - Gas piping must be isolated from the gas supply before any energized portion is altered or disconnected. Pilot Light A standing pilot light is a small, continuously burning flame that serves as an ignition source for older gas appliances such as furnaces, water heaters, and fireplaces.
	Failure Scenario(s)	A licensed gas-fitting company was hired by the homeowner to perform the regulated work of removing a damaged furnace. Two labourers from the gas-fitting company were dispatched in the morning of the Incident with tools and instructions to disconnect and remove the damaged gas

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furnace's ducting. Upon arrival at the subject dwelling house, the labourers began preparing the damaged gas furnace for removal prior to the arrival of a certified journey person gas-fitter to disconnect the gas supply.

The gas-fitting company owner referred to the two labourers as "apprentices;" however, no documentation confirming that either were registered apprentices in the gas-fitting profession applicable to the regulated work being performed was provided at the time of the Incident. The regulated work was also unsupervised. It is mandatory that a qualified person supervise any apprentice performing work within the scope of their apprenticeship, both on-site and as the work progresses.

The Incident occurred during the winter, and as such, it was expected that the furnace be replaced the same day to restore heat to the dwelling house. The subject furnace and gas-fired water heater were installed very close together in the same hallway enclave near the entry of the dwelling house. In this case, the water heater and subject furnace were directly side-by-side and nearly touching ([Image 1](#)).

Before arriving at the residence, the two labourers had been instructed by the owner of the gas-fitting company to remove the damaged gas furnace's ducting in preparation for the changeout. It is unclear whether and to what extent the labourers understood the full scope of their responsibilities respecting the removal of the subject furnace. Each demonstrated differing levels of understanding of compliant procedures, including, for example, those associated with the disconnection of electrical components, which, per applicable electrical regulatory requirements, may only be performed by individuals with the appropriate qualifications and authorizations.

To access and remove all ducting in the confined worksite, the labourers needed to move the subject furnace away from the wall and the adjacent water heater ([Image 3](#)). They proceeded to disconnect the subject furnace's electrical connection and gas piping and attempted to move the appliance, despite being aware the gas supply was active and had not been shut off at the main valve at the exterior of the dwelling house.

In the course of the disconnection work, the labourers closed the appliance shut-off valve, removed the union on the ½-inch black iron pipe, and attempted to remove the subject furnace. As the remaining riser prevented removal, the labourers proceeded to unthread the riser on the supply side of the shut-off valve, resulting in an open and flowing gas line ([Image 3](#)). They stated that they intended to cap the opening while manually restricting the low-pressure gas flow using thumb pressure over that opening; however, gas escaped.

The pilot light in the neighbouring water heater ignited the escaping gas, resulting in a fire that was confined to the appliances and the surrounding wall area. One labourer ran outside to shut off the gas supply at the meter and then applied water to the burning walls and appliances, while the second worker evacuated the occupant from the dwelling house.

Following the Incident, the subject furnace and water heater were removed from the dwelling house. [Image 4](#) shows both damaged appliances after the Incident.

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Facts and Evidence	Summary of Topics Discussed During Interviews with the Gas-Fitting Business Owner and Labourers Owner Background and Qualifications Owned the plumbing and heating company since 2012, after previously working for the company from 2001-2012. With approximately 25 years of experience working with gas systems as a licensed plumber and Class A gas fitter, they completed plumbing apprenticeship training in Alberta and British Columbia, received plumbing certification in 2001, and obtained a Class A gas-fitter certificate in 2003. Labourers' Background • Labourer 1 – A sheet metal apprentice with several years of various industry experience in plumbing and heating and sheet metal. This labourer had previously worked for the company, left for a period, and later returned. The labourer holds a Red Seal in glazing and has sheet metal experience but does not hold gas or plumbing certification. • Labourer 2 – Had been working in a labourer capacity and had not yet attended formal technical training. Business Owner Assigned the Work and Scope According to the business owner, the two labourers were dispatched to a residential property to begin removal of a furnace. Their assigned scope of work was limited to: • Unloading tools and preparing the worksite; • Disconnecting and removing sheet metal ducting and electrical components; • Disconnecting ancillary components, such as the condensate drain; and • Not performing gas line disconnection or modifications beyond isolating equipment as required for safety, and waiting for a qualified gas-fitter, such as the owner or another journeyman, for any gas-related work. Labourer 1 Statement on Work and Scope • Acknowledged that he knowingly worked outside his trade scope and without required supervision. • He stated he felt self-imposed pressure and impatience, not external pressure. • Admitted he had never been trained to perform the actions that led to the ignition. Description of Worksite Conditions • The furnace and water heater were installed in very close proximity, which limited access. • The water heater pilot light was operating at the time. • The space was confined and located within a residential structure constructed with dimensional log materials. • The gas supply to the furnace originated from a vertical riser coming up from the floor. Summary Timeline of Events Leading to the Incident (According to the Business Owner's Statements) • The two labourers disconnected ducting and isolated the furnace. • Labourer 1 carried on with dismantling the piping that was in the way of the furnace, which was beyond their assigned scope. They disconnected the gas
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union at the furnace and capped the line above the gas isolation valve and removed the gas riser supplying the furnace.

- The gas supply was still live, and the neighbouring water heater pilot light remained lit.
- Upon removal of the riser, escaping gas ignited from the pilot light, resulting in a flame and localized fire.

Incident Response

- The resulting flame travelled upward and caused fire damage above the appliances.
- Labourer 1 exited the residence and shut off the gas supply at the meter.
- Labourer 2 escorted the homeowner out of the dwelling house.
- Smouldering continued briefly due to the log construction but was contained.
- No emergency services involvement was noted during the interview.

Injuries Reported - Worker Statements

- Labourer 1 had burns to the top of the head, including singed hair, and heat exposure to the hands.
- Labourer 2 had a small blister burn on one finger.
- In each case, the injuries were described as minor and non-life-threatening.

Apprenticeship Scope and Supervision Practices

- Apprentices and labourers may perform tasks related to regulated work only under the direct supervision of a qualified gas fitter.
- The gas-fitting company has not historically had documented, written policies that clearly define apprentice task limits, although verbal expectations were communicated.
- Labourer 1 had previously been shown how to disconnect gas unions under supervision.
- The business owner acknowledged that repeated supervised exposure may have contributed to a false sense of authorization or competence.
- Labourer 2 was not authorized to perform any gas work and was present only to assist with labour.

Identified Contributing Factors Post-Incident

The business owner identified the following contributing factors:

- complacency resulting from a previously uneventful work history;
- informal training practices without clearly defined stopping points;
- insufficient clarity regarding apprentice task boundaries;
- communication gaps regarding expectations on the day of work.

Internal Company Corrective Actions Taken by Owner

- Development and implementation of a formal written policy prohibiting gas work unless performed by authorized, licenced personnel under proper supervision.
- Increased emphasis on clearly communicating task limits.
- A commitment to improving documentation, training clarity, and safety oversight.
- Ongoing internal review of company safety practices.

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Summary of Applicable Gas and Electrical Safety Requirements

- Under the **Safety Standards Act** and **Gas Safety Regulation**, regulated gas work may only be performed by individuals who are properly qualified, certified, or authorized.
- Regulated gas work (including works related to gas piping, appliances, furnaces, and venting) must be performed by:
 - A certified journeyperson holding a valid certificate of qualification, or a registered apprentice working within the scope of their apprenticeship and under appropriate supervision.
- Labourers who are not registered apprentices are not permitted to perform regulated gas work.
- A licensed gas contractor or permit holder is legally responsible and must not allow unauthorized individuals to perform work within the scope of their licence or permit.
- A journeyperson is someone who holds a valid certificate of qualification or an equivalent credential recognized under comparable Canadian legislation, though, the holder will still be required to pass the ARD exam before being qualified to perform certain regulated work in BC.
- Gas equipment includes piping, appliances, fuel containers, and venting systems.

Natural Gas and Propane Installation Code (CSA B149.1) Requirements

- Maintenance on gas piping systems must not be performed while the system is under pressure, unless specifically permitted by code.
- Gas piping must be isolated from the gas supply before any energized portion is altered or disconnected.

Electrical Work Limitations

Regulated electrical work may only be performed by individuals with an appropriate Skilled Trades BC electrical certification, or individuals who have completed provincially recognized training.

Class A and Class B gas fitters are permitted to perform only limited electrical work, as defined in the applicable [information bulletin](#), and only while working under a valid gas contractor's licence or permit.

Causes and contributing factors

The immediate cause of the Incident was the intentional disconnection of the furnace gas piping and shut-off valve without isolating the natural gas supply (attempted live-capping). This created the conditions for the escaping gas to ignite at the pilot flame on the neighbouring water heater, resulting in fire damage and injuries.

Contributing factors included:

1. No supervisory oversight by a certified journeyperson as the regulated work progressed.
2. Ineffective communication of the scope of work and task boundaries for apprentices and labourers.



Image 1 – Furnace and water heater post-Incident in place. *(Photo taken by Restoration Company.)*



Image 2 – Close-up of damage from explosion/fire above furnace and water heater.

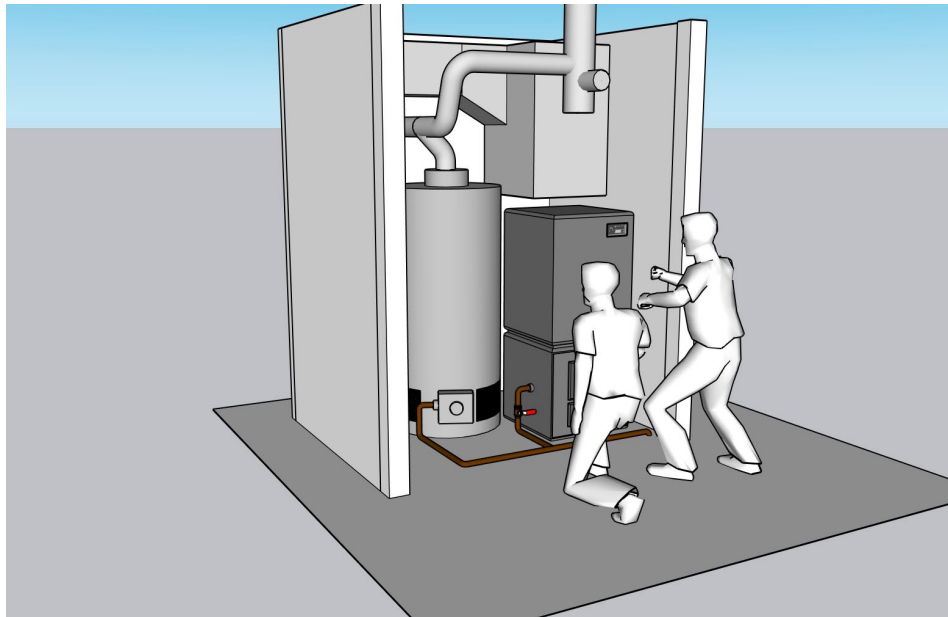


Image 3a - 3D model of Incident layout for demonstrative purposes.

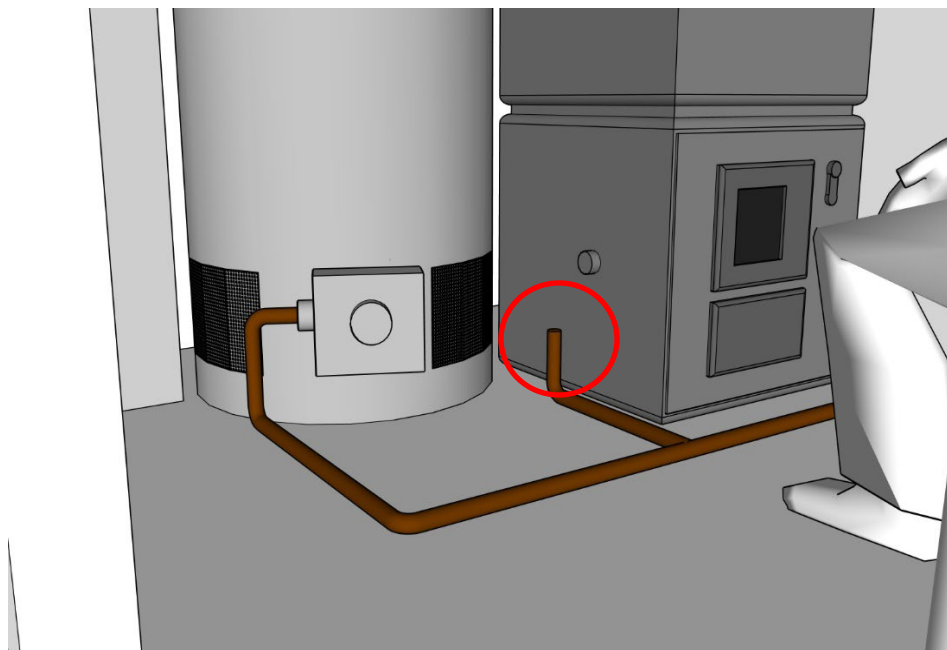


Image 3b – 3D model of incident gas riser after disconnection of the shut-off valve, where a worker attempted to cover the opening with thumb pressure as gas escaped ("live-capping" of the line).



Image 4 - Furnace and water heater damaged and removed post-Incident.

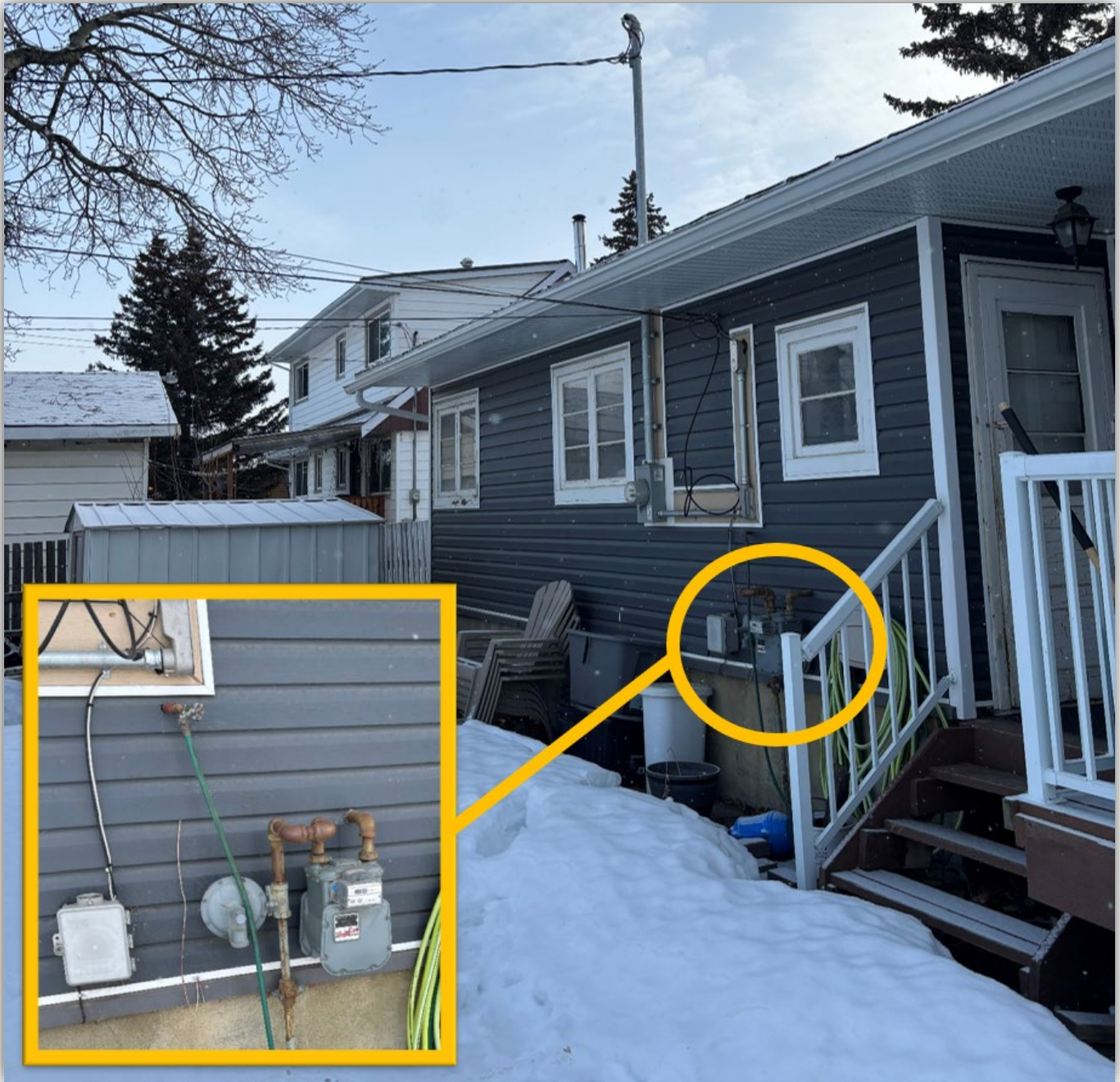


Image 5 - Location of shut-off at the rear of the dwelling house. It was accessed by the labourers only after the fire started.