Incident Summary #II-956289-2019 (#16161) (FINAL)

SUPPORTING INFORMATION	Incident Date		December 15, 2019
	Location		Prince George BC
	Regulated industry sector		Gas - Natural gas system
	Impact – Injury	Qty injuries	0
		Injury description	None
		Injury rating	None
	Impact – Damage	Damage description	First section of heat tube failed and split along a welded seam
		Damage rating	Minor
	Incident rating		Minor
	Incident overview		Infrared radiant tube heater heat tube failed allowing flame to burn uncontrollably and thus igniting the shops plywood ceiling.
INVESTIGATION CONCLUSIONS	Site, system and components		•Infrared radiant tube heater primary heat source to shop. •The infrared heater is fueled using natural gas. The hot temperatures are generated by burning fuel inside the unit, a steel tube within the heater. The heat from this surface is then emitted in the form of infrared radiant energy. Reflectors direct the infrared radiant energy downward to ultimately warm the floor and objects in the room. •The first section of the burner tube is closest to the heat source and thus is subjected to the highest direct temperature.
	Failure scenario(s)		Incorrectly installed tubes, welded seams of the tubes are to be positioned downward. Lack of regular maintenance of the heating equipment.
	Facts and evidence		Installation manual states: Make sure the welded seams at bottom of tube pointing down towards the floor when installed. In this installation the seams were installed on the top. The first section of the burner tube had split along the welded seam. Owner of the equipment was unable to provide any maintenance records of the heating equipment.
	Causes and contributing factors		The fire was very likely caused by the lack of maintenance of the heating equipment, and the improper installation orientation of the tubes.

First section of heat tube

First section of heat tube, close up view

Overview Burnt ceiling

Heater in place, hole burnt through plywood ceiling