Incident Summary #II-893819-2019 (#14866) (FINAL)

SUPPORTING INFORMATION	Incident Date		August 18, 2019
	Location		Saanich
	Regulated industry sector		Gas - Natural gas system
	Impact – Injury	Qty injuries	0
		Injury description	None
		Injury rating	None
	Impact – Damage	Damage description	A small uncontrolled release of gas resulting in a small fire in a range top cavity.
		Damage rating	Minor
	Incident rating		Minor
	Incident overview		A restaurant employee was attempting to re-attach a loose control knob back onto a four burner gas cooktop when the internal gas control valve separated on burner 2 causing an uncontrolled release of gas. The gas was ignited by the standing pilot resulting in a fire mainly contained in the range top cavity. The local fire department attended and shut off the gas at the main supply valve located upstream of the interlock valve.
INVESTIGATION CONCLUSIONS	Site, system and components		Four burner cook top with individual gas controls to meter the amount of fuel to each burner for the user selected input . The user would move the valve handle from the off position and rotate to the on position. This rotation would now allow a flow of gas to the burner ring where ignition would occur due to the standing pilot, which forms part of the burner ring. The handle could now be rotated allowing addition fuel into the burner ring to achieve the flame height selected by the user. At the end of the cooking cycle the control handle is rotated back to the off position with the pilot remaining standing. The valve is constructed of an inlet and outlet with a rotating stem that moves the plunger off of the valve seat allowing gas to flow to the burner. The stem is contained in the valve body via a threaded knurled nut (bonnet).
	Failure scenario(s)		Repeated rotation of the valve stem during normal operation allowed the bonnet to back off the mating threads on the valve body. Insufficient thread engagement combined with internal spring pressure resulted in separation on the valve bonnet from the valve body during re-attachment of the control knob.
	Facts and evidence		Photo of separated valve
	Causes and contributing factors		It is likely the incident was caused by no mechanical safe guards preventing the valve from separating while in use.

Photo 1: Valve body, with stem and bonnet assembly shown on right.