

Incident Summary {II-649103-2018}

SUPPORTING INFORMATION	Incident Date		Feb 2018	
	Location		Nanaimo rooftop unit	
	Regulated industry sector		Gas	
	Impact	Injury	Qty injuries	0
			Injury description	
		Injury rating	minor	
	Damage	Damage description	Small delayed ignition explosion, minor damage to unit	
		Damage rating	minor	
Incident rating		minor		
Incident overview		Small explosion on roof on building from rooftop unit		
INVESTIGATION CONCLUSIONS	Site, system and components		Roof top unit suppling heat to building. Thermostat in lobby calls for heat, rooftop unit starts the heating cycle, pilot lights, if flame present pilot flame sense sends electrical pulse back to control module which then opens main gas valve allowing gas to flow to burners, pilot flame ignites main burner. When thermostat reaches the required temperature setting the call for heat signal is turned off shutting down main burner and pilot extinguishing all flame.	
	Failure scenario(s)		Call for heat from thermostat called for pilot to light, main gas valve opened, main burners did not light immediately allowing a small gas build up, when burners finally ignited a small explosion occurred.	
	Facts and evidence		the burner management system was working correctly, the combustion chamber had developed numerous rust holes due to deterioration where gas and or products of combustion could escape during light off or operation led to a buildup of explosive gas outside of the combustion chamber	
	Causes and contributing factors		Improper maintenance and age of equipment	

Photos or diagrams (if necessary)