

Incident Summary (Reference #II-693957-2018)

SUPPORTING INFORMATION	Incident Date	May 7, 2018	
	Location	Burnaby	
	Regulated industry sector	Boiler and pressure vessel system	
	Impact	Qty injuries	None
		Injury description	None
		Injury rating	None
	Damage	Damage description	Gas leak in pipe line fitting.
		Damage rating	None
Incident rating	Insignificant		
Incident overview	A fuel gas pipe line fitting developed a pinhole leak allowing fuel gas to escape.		
INVESTIGATION CONCLUSIONS	Site, system and components	<i>The oil refinery fuel gas pipe line conveys high pressure fuel gas to various processes throughout the plant. The high pressure fuel gas pipe and associated fittings are generally made of steel to withstand the high fuel gas pressure. The pipe fittings are typical 90° elbows, couplings, tees, valves etc. that are used to join various sections of pipe together.</i>	
	Failure scenario(s)	One of the fittings (2" - 90° elbow) on the fuel gas pipe developed a pinhole leak allowing fuel gas to leak to the atmosphere.	
	Facts and evidence	<ul style="list-style-type: none"> Refinery process operator noticed a hissing sound in the vicinity of the 90° elbow when performing his unit rounds. The refinery personnel implemented a temporary leak repair by enclosing the leaking elbow. Gas leak testing was used to verify that the leak had been contained – photo attached. 	
	Causes and contributing factors	It is likely that the cause of the pinhole leak may be due to certain components in the fuel gas that contributed to under deposit corrosion and possibly this under deposit corrosion eventually developed into a pinhole leak.	

Typical 2" -
90° Steel
Elbow



The 2" - 90° steel elbow with pinhole leak has been enclosed in a metal casing. A sealant is injected into the metal casing to seal the leak.

