

Incident Summary #II-1068404-2020 (#19252) (FINAL)

SUPPORTING INFORMATION	Incident Date		September 16, 2020
	Location		Burnaby, British Columbia
	Regulated industry sector		Gas - Propane system
	Impact Damage Injury	Qty injuries	0
		Injury description	None
		Injury rating	None
		Damage description	Camper van badly burnt (Image 1). Propane auto dispenser badly burnt. No damage to building or other areas, the fire was contained to the island dispensing area.
		Damage rating	Major
	Incident rating		Major
	Incident overview		A Propane dispensing attendant was refueling a camper van at a card lock auto dispenser. The vehicle had a typical under belly mounted propane tank that is used for the appliances in the camper. Filling of the tank required the fixed liquid level gauge (Spit Valve) to be opened during filling. Propane vapor is released from the open fixed liquid level gauge and once the liquid level of the tank reached the legal limit, liquid vented from the spit valve indicating the tank was full to the required 80% level. The propane vapour found a source of ignition and set the dispenser and vehicle on fire.
INVESTIGATION CONCLUSIONS	Site, system and components		 The intended purpose of the site is for propane cylinder and vehicle filling. The proper procedure for filling a recreational vehicle propane tank is for the propane attendant to confirm with the vehicle owner that all pilot lights within the vehicle had been extinguished, the vehicle ignition was off and there were no other sources of ignition present. Once the pilots were extinguished and the fuel supply valve had been closed, the attendant would then be free to fill the vehicle to the procedure laid out in the training. The certification training manual to which the propane attendant was certified to six months prior contains the following items: Ensure there are no ignition sources within 3 metres (10 feet) of the filling connection. NO SMOKING, NO OPEN FLAMES, NO VEHICLE RUNNING, NO PILOT LIGHTS LEFT ON (such as those found in travel trailers, RV's, catering trucks and some cargo vans). Special attention must be paid to travel trailers, recreation vehicles (RVs), catering trucks and some cargo vans to ensure that no appliance burners or pilot lights are left on prior to fuelling taking place. Open the filling nozzle and listen to make sure there is no leakage. If your propane tank is not equipped with an automatic stop fill valve, open the fixed liquid level gauge — only enough to allow an audible hiss.



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		 When a white fog is flowing steadily from the fixed liquid level gauge, the tank is considered full. Release nozzle trigger or Deadman switch immediately.
		4.5 Steps to Filling a Propane Motor Fuel Tank
	Failure scenario(s)	The first in the sequence of failures is that the owner of the vehicle failed to ensure that all sources of ignition (the pilot lights) had been extinguished within his vehicle prior to requesting a fill-up as is required within the vehicles operating manual.
		The second failure is that the propane attendant proceeded to fill the vehicle without confirming with the vehicle owner that in fact all ignition sources had been extinguished as is required under the attendants certification.
	Facts and evidence	Facts and evidence was collected through written and verbal statements from all involved parties:
		 Vehicle owner Confirmed that there were only 2 gas fired appliances with-in the vehicle. One was a stove who's pilot was extinguished and one was a fridge who's pilot was still on. Stated that he had gone inside the store to request a fill-up of propane for his vehicle and continued to wait inside thinking that an attendant was going to come get him as that was the procedure that was performed on all his previous fill-ups in the past. Stated he was completely un-aware that the attendant commenced with the filling until the attendant came into the store exclaiming that something was on fire.
		 Propane attendant Stated that he recognized this vehicle and has filled it multiple times in the past without incident. He stated that it slipped his mind to ask the vehicle owner if the pilots where shut off because he thought the owner new the routine from the last time he showed him how to shut off the pilots. Did confirm that the propane service valve was shut off prior to filling. Stated that once tank reached the full level, the spit valve started to vent a dark liquid propane so he released the trigger to stop filling and there was an immediate ignition. Went inside to get help at which time a second attendant came out to investigate and initiate the emergency stop button.
		Conducted interviews and received written statements from the Propane attendant, Vehicle owner and also received corroborating statements of the incident from Store owner and the current Onsite propane trainer.
	Causes and contributing factors	The most likely cause of the vehicle fire was due to an incorrect filling procedure by a newly certified attendant. The incorrect filling procedure allowed venting propane to



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reach a source of ignition located within the vehicle that had not been extinguished by either the owner of the vehicle nor the propane attendant prior to filling.

A contributing factor would be that the attendant had previous experience filling this particular vehicle and assumed that the owner was familiar with shutting off the pilots before requesting a fill-up.



Image 1 - Damaged vehicle





Image 2 - Cylinder fill point and refrigerators standing pilot





Image 3 - Cylinder connection identification