

Incident Summary #II-1096151-2020 (#19743) (FINAL)

SUPPORTING INFORMATION	Incident Date	October 22, 2020	
	Location	Abbotsford	
	Regulated industry sector	Electrical - Low voltage electrical system (30V to 750V)	
	Impact	Qty injuries	1
		Injury description	Individual received electrical shock
		Injury rating	Moderate
	Damage	Damage description	N/A
		Damage rating	None
	Incident rating	Moderate	
Incident overview	An unqualified individual received an electrical shock to the hand while working next to an exposed live electrical circuit in a unit of a residential apartment building. The individual required hospitalisation due to the electrical shock.		
INVESTIGATION CONCLUSIONS	Site, system and components	<p>The Canadian Electrical Code states that no repairs or alterations shall be carried out on any live equipment except where complete disconnection of the equipment is not feasible. A qualified electrician may have de energized the circuit and checked with a testing tool that the circuit was in fact de energized.</p> <p>Light switches work by making, breaking or changing connection in a circuit to control a light. Three way light switches are electrical components that operate a light or multiple lights from two locations. Therefore there are no “on” or “off” positions indicated on the switch. Operation of either light switch may not de-energize power at the light location.</p>	
	Failure scenario(s)	<p>A previous storm caused water damage to the drywall in the hallway and bathroom of the tenants home. The tenant contacted a family member with construction experience to help them replace the damaged drywall, this individual was not an electrician. There is one surface mounted light fixture installed in the hallway. The light fixture was removed to repair the drywall and left an exposed wiring hanging down. The individual then went to re-install the drywall. The light switch for the lighting circuit was believed to be turned off. The lighting circuit was however still energized as it was operated by a three way switch. The breaker for this circuit was not turned off and the exposed wiring was not tested to confirm it was de-energized. The individual then stepped up onto the step ladder and made contact with the exposed wire resulting in an electrical shock.</p>	
	Facts and evidence	<p>Tenant statements:</p> <ul style="list-style-type: none"> - There was water damage to the existing drywall from a roof leak. - A family member with construction experience helped with repairs. 	

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	<p>The injured individual statements:</p> <ul style="list-style-type: none">- The light fixture and drywall was removed to accommodate repairs leaving exposed wiring.- The light switch was turned off and believed this would disconnect power to the lighting circuit.- The breaker operating the lighting circuit was not turned off.- Individual stated they are not an electrician.- The lighting circuit was never tested to confirm it was de-energized.- The individuals hand touched the exposed wire, received an electrical shock and fell off the ladder.
<p>Causes and contributing factors</p>	<p>The cause of this incident is very likely due to the lighting circuit wiring being exposed and not de-energized prior to working near it.</p> <p>The lighting circuit being operated by a three way switch is a contributing factor.</p>