

SUPPORTING INFORMATION	Incident Date	August 16, 2023	
	Location	Cowichan Valley	
	Regulated industry sector	Electrical - Low voltage electrical system (30V to 750V)	
	Impact	Qty injuries	1
		Injury description	Person shocked by a live wire.
		Injury rating	Minor
	Damage	Damage description	N/A
		Damage rating	None
Incident rating	Minor		
Incident overview	Homeowner was shocked by live exposed wires when crawling through a crawl space.		
INVESTIGATION CONCLUSIONS	Site, system and components	Baseboard heating circuit decommissioned, and the wires were not properly isolated.	
	Failure scenario(s)	<p>Spring of 2022 an electrical contractor (contractor A) was hired by an HVAC company to run a circuit for a new heat pump at a single-family dwelling.</p> <p>The service was undersized for the new load, so it was decided to remove a baseboard heating circuit to facilitate the addition of the heat pump and use the free space in the panel to connect the circuit breaker for the new heat pump.</p> <p>The base board heating circuit conductors were removed from the breaker, the base board heaters were disconnected and removed, and the conductors were pushed down into the crawl space. The individual that did the work reported that they were coming back to do a service upgrade and they would then determine what to do with the de-energized circuit in the crawl space at that time.</p> <p>During the winter of 2023, contractor A began a service upgrade. The job included a new overhead 200amp service to a garage and a sub feed and panel swap at the dwelling. The service was approximately 50% complete and contractor A called the owner of the property to set up a date to complete the upgrade with the utility provider. Contractor A said they never received a call back. During the summer of 2023 Contractor A became aware that another contractor (original HVAC contractor, B) had completed the service upgrade.</p> <p>The 200amp service to the garage was completed in May by contractor B, and the house panel was swapped out in July. During the house panel swap the original base board heater circuit that was removed by contractor A was reconnected. On August 31st contractor A was at the dwelling to pull a feed to a new duct heater in the crawl space. It was at this time that the owner told the contractor he had been shocked by the live wires in the crawl space. Contractor A investigated and found the live circuit and rectified the hazard.</p> <p>When interviewing the owner, he said that approximately 4 or 5 weeks earlier (August 16th - 23rd) he was backing out of a narrow spot in the crawl space when he backed into the live circuit. He stated that he contracted the live wires with the back of his left shoulder and then there was a flash of blue light. He reported feeling lightheaded and sweaty.</p>	

Facts and evidence

Witness statements and photos.

Causes and contributing factors

There were several points of failure that led to the creation of the hazard and the electric shock of the owner.

Even though contractor A was coming back to do the service upgrade, the bare wires in the crawl should have been properly dealt with, a minimum safe practice would be to connect all conductors together and cover with insulating tape prior to pushing them down into the crawl space.

Nobody notified contractor A that the job had been taken over by others.

Contractor B failed to recognize that there were energized exposed wires in the crawl space after the panel swap, and the circuit breaker that was feeding the conductors were labeled as "kitchen counter plugs".

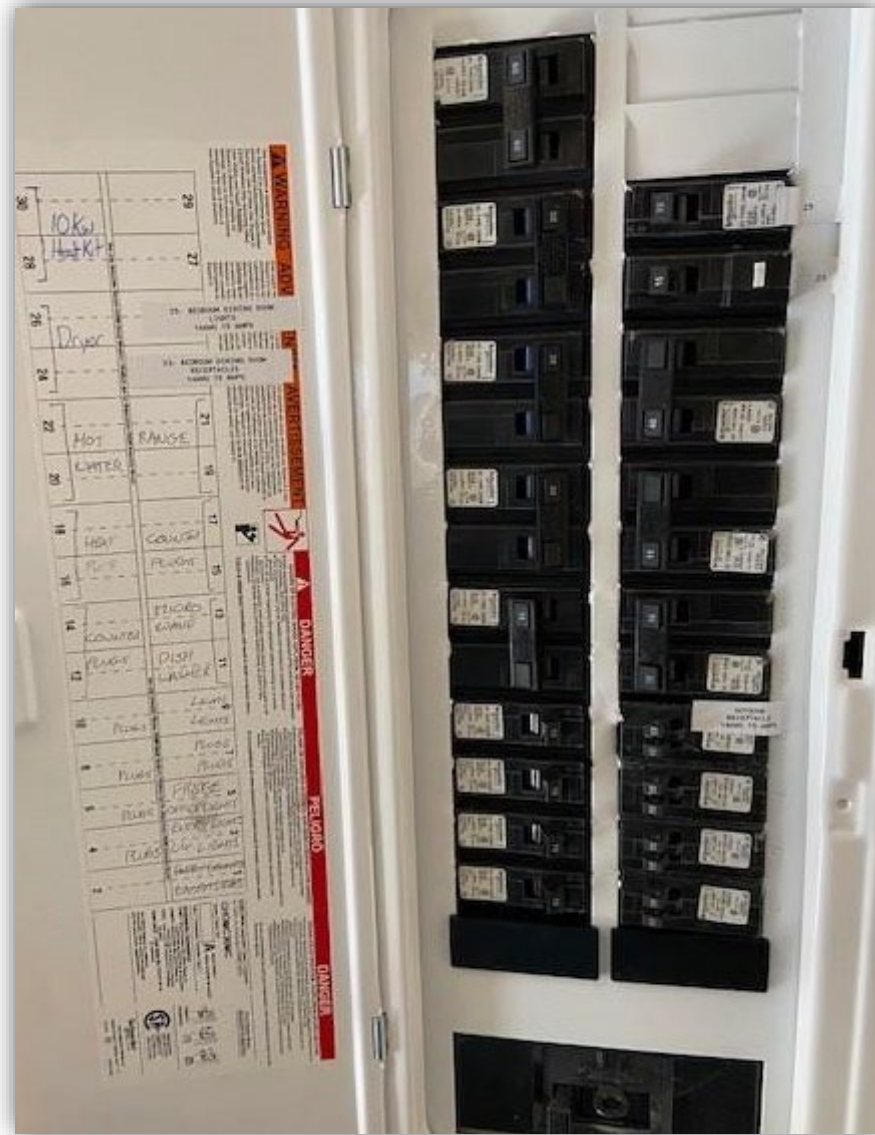


Image 1 - New panel in dwelling.



Image 2 - Crawl space where incident occurred.



Image 3 - 2c #12 wire from panel to crawl that was feeding the exposed circuit.



Image 4 - Bare conductors from decommissioned base board heating circuit.



Image 5 - Live conductors that the owner contacted in the crawl space.