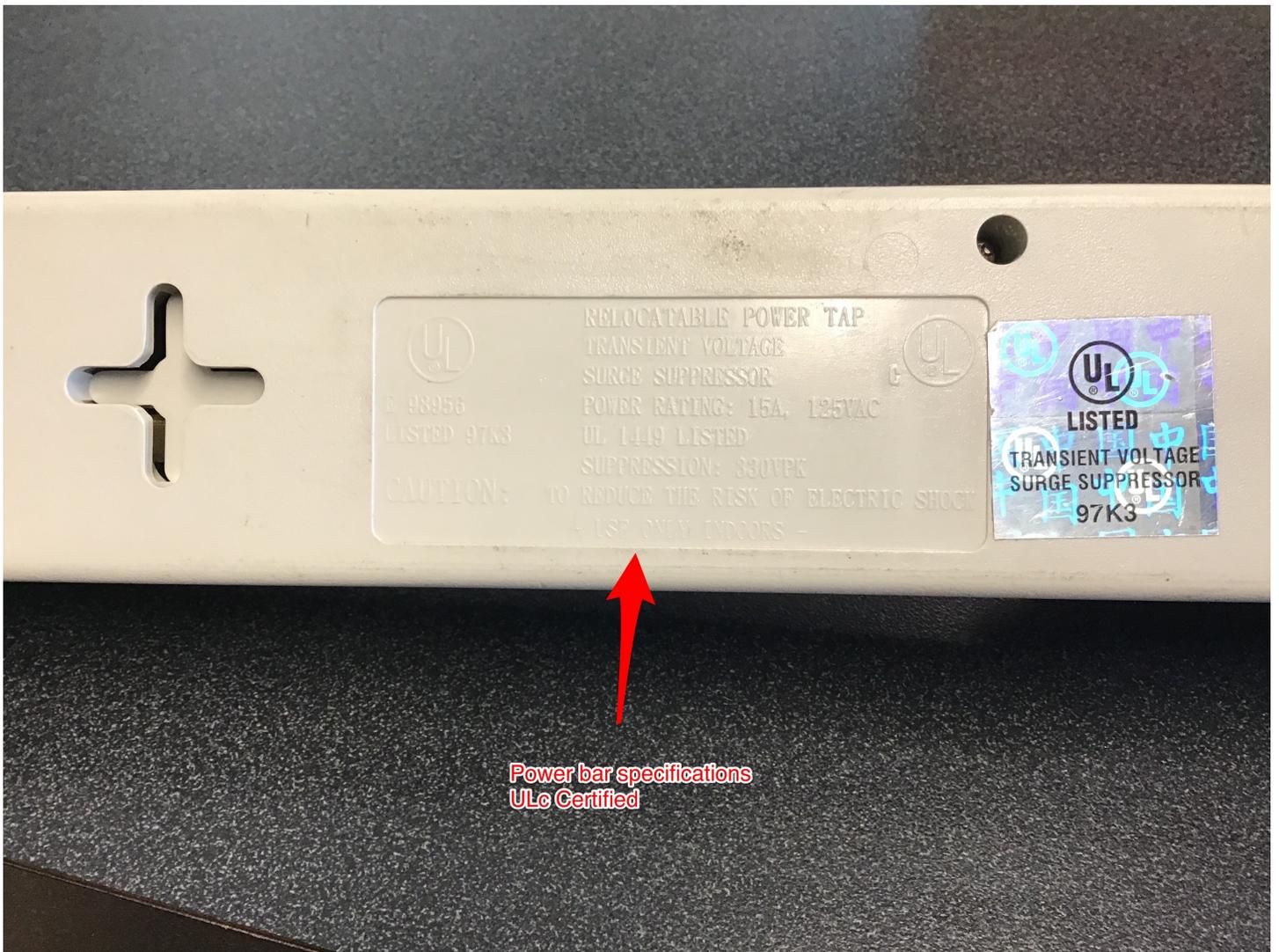


Incident Summary #II-1257048-2021 (#24091) (FINAL)

SUPPORTING INFORMATION	Incident Date	September 3, 2021	
	Location	Armstrong	
	Regulated industry sector	Electrical - Low voltage electrical system (30V to 750V)	
	Impact	Qty injuries	0
		Injury description	N/A
		Injury rating	None
	Damage	Damage description	Transient voltage suppression unit caught fire.
		Damage rating	Minor
	Incident rating	Minor	
Incident overview	Transient voltage suppression unit overheated and caught fire, no known damage to electrical system noted at time of incident.		
INVESTIGATION CONCLUSIONS	Site, system and components	<p>A power bar model C2005, Interact by Recoton is rated for 15amps 125volt, 330Vpk/ ULc Certified Transient Voltage Surge Suppressor 'TVSS' was used.</p> <p>A transient voltage surge suppressor is used to suppress temporary power surges on the electrical system and helps regulate the voltage for a constant voltage output during normal operating conditions with normal power issues occurring.</p>	
	Failure scenario(s)	<p>A power issue created by a loose main identified conductor in the electrical panel G-1 electrically disconnected the identified grounded neutral conductor from the connected circuits in panels G1 and G2. This provided the only operational electrical path to operate from the line-line ungrounded conductors through connected equipment. This caused an overvoltage of 171-volts to the 120-volt receptacles. The overvoltage caused the Transient Voltage Surge Suppressor voltage regulator in the power bar to overheat due to a constant over-voltage (171-volts) and fail causing the equipment to melt with a small fire/smoke.</p>	
	Facts and evidence	<p>Witness statements</p> <ul style="list-style-type: none"> • Prior to the initial power bar fault, it was noted lights in the entry area were found flickering and various power outlets noted not working. • The power bar during operation became overheated and faulted within the indicating light area and melted, no damaged was noted to carpet or furniture. • The fire department was called and arrived at scene; no fire was noted. • Prior to the TVSS power bar failing, an UPS power supply shut down and all alarms within the room triggered. • All the calculators were found damaged and inoperable. 	

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	<p>Electrician</p> <ul style="list-style-type: none">• The 15amp 1-pole breaker for the circuit was in Panel G2 and was still in the 'on' (energized position) indicating there was no short or overloaded circuit.• They measured 171-volts at various 120-volt receptacles resulting from a "loose "MAIN" conductor" in power panel G-1 while troubleshooting <p>Site observation</p> <ul style="list-style-type: none">• Panel G1 is the first source of power located in the basement electrical room that sub-feeds power to Panel G2.• Panel G2 provides power to various outlets/ equipment• Other various lighting and additional receptacles operating in the area are fed from panel 'G1' in the main electrical labelled with a 3p 60amp sub-feed to Panel 'G2'• Additional electronic calculators were also damaged, they were not found to be on the same circuit• The power bar faulted 'within' the indicating lamp area causing it to melt and start a small fire/ smoke from melting plastic under a counter on a carpeted area, no damage noted to carpet
Causes and contributing factors	It is likely the loose main conductor in the electrical panel caused a continuous over-voltage which resulted in the power bar melting with a small fire and smoke.



Power bar specifications
ULc Certified

Image 1 - Transient Voltage Surge Suppressor ratings

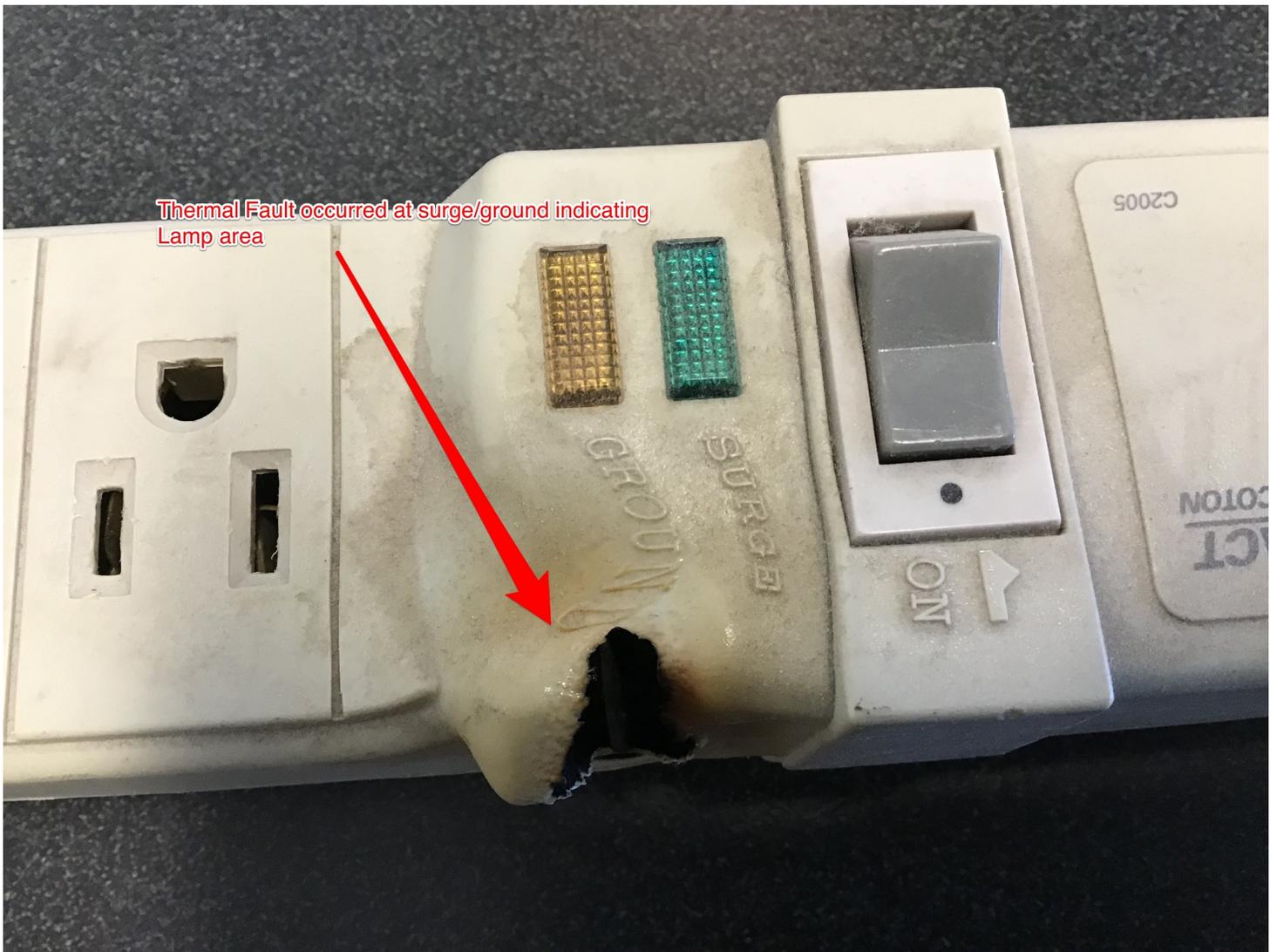


Image 2 - Specific heat damage- equipment rated

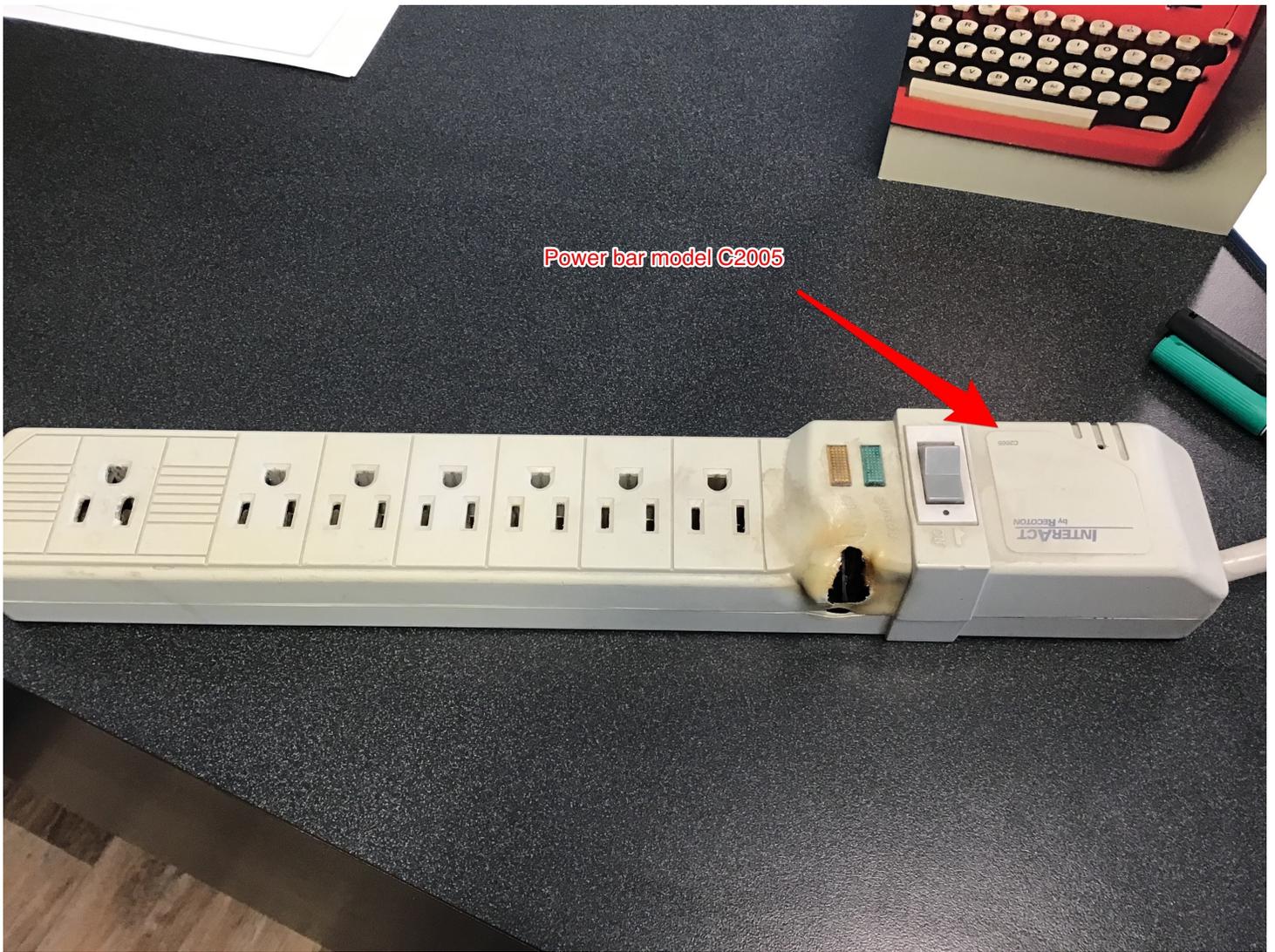


Image 3 - View of damaged TVSS unit

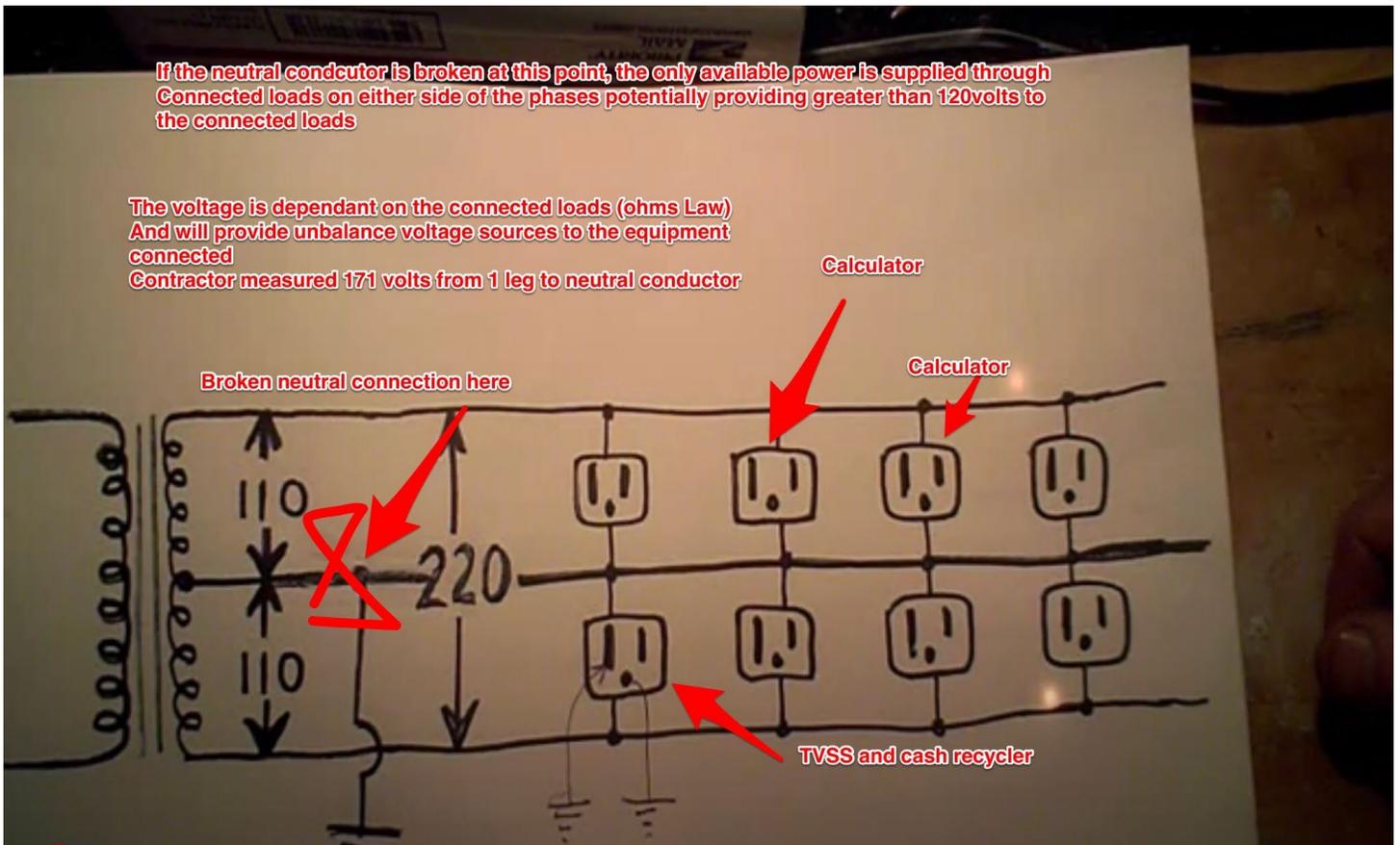


Image 4 - Diagram of wiring when the identified conductor is damaged and disconnected from the electrical system. The power still creates a circuit through the 240volt conductors through connected loads, each load will have different resistances and will distribute power unevenly and this can damage the equipment.