

Incident Summary (II-613449-2017) (Final)

SUPPORTING INFORMATION	Incident Date	<i>November 9, 2017</i>	
	Location	<i>Madeira Park, Sunshine Coast</i>	
	Regulated industry sector	<i>Electrical – Low Voltage Electrical System (30V – 750V)</i>	
	Impact	Qty injuries	<i>None</i>
		Injury description	<i>None</i>
		Injury rating	<i>None</i>
	Damage	Damage description	<i>Arcing & burn marks located on the interior and exterior of electrical equipment housing circuit breakers in the main electrical room of an institution.</i>
		Damage rating	<i>Minor</i>
	Incident rating	<i>Minor</i>	
	Incident overview	<i>One of the three main fuses at an educational facility opened under a short circuit condition. The incident prompted the immediate closure of the educational facility due to the resulting power failure.</i>	
INVESTIGATION CONCLUSIONS	Site, system and components	<i>The main electrical room of the educational facility houses a main electrical panel-board with circuit breaker positions. When a qualified worker installs a new circuit breaker into a main electrical panel-board, the individual disconnects the source power feeding that panel-board. The main electrical panel-board in the educational facility was protected by three fuses which open (disconnect power) in a short circuit event.</i>	
	Failure scenario(s)	<ul style="list-style-type: none"> <i>While completing electrical work to install a new 90A 600V circuit breaker the electrician did not de-energize the system and lock it out prior to performing the work.</i> <i>While installing a circuit breaker into the energized main panel-board, the electrician's screw driver made contact between the energized terminal of the circuit breaker and the grounded metal cover of the main distribution panel-board.</i> 	
	Facts and evidence	<p><i>Interview with Incident Reporter (Maintenance Electrician):</i></p> <ul style="list-style-type: none"> <i>The maintenance electrician at the institution had scheduled a shutdown of the electrical system as to facilitate the installation of a new circuit breaker.</i> <i>The maintenance electrician at the institution informed the electrician prior to the commencement of work, that working on energized and operating electrical was not authorized.</i> 	

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	<ul style="list-style-type: none">• After the equipment failure, the maintenance electrician attended site to replace one of the three main fuses.• After the equipment failure, the maintenance electrician arrived on site and observed that the electrician departed the site upon power failure.
Causes and contributing factors	<p>The cause of this incident is very likely a screw driver making contact between energized parts and a grounded panel-board enclosure by an electrician working on energized equipment while installing a new circuit breaker when it was planned and feasible to disconnect.</p>



Burn mark on exterior from screwdriver making contact with energized electrical parts and grounded panel-board enclosure



Burn mark on interior of panel-board enclosure