Incident Summary #II-1424820-2022 (#29512) (FINAL)

SUPPORTING INFORMATION	Incident Date		August 22, 2022
	Location		Quesnel BC
	Regulated industry sector		Electrical - Low voltage electrical system (30V to 750V)
	Impact – Injury	Qty injuries	1
		Injury description	Damaged electrical equipment energized metal fencing, causing electric shock to individual when they touched it.
		Injury rating	Minor
	Impact – Damage	Damage description	Chain link fence became energized when electrical wires were pinched in between the conduit and the enclosure.
		Damage rating	Minor
	Incident rating		Minor
	Incident overview		An electrical fitting broke/became loose when the fence was being moved due to flooding, causing the wiring to be pinched. This energized the non-current carrying metal. When the fitting broke/became loose, the bond path was not maintained and therefore the breaker did not trip.
INVESTIGATION CONCLUSIONS	Site, system and components		A metal junction box was installed on a chain link fence feeding vehicle receptacles. The wiring was through rigid metal conduit and the conduit was used as the bond pathway.
	Failure scenario(s)		The wiring in the conduit was pinched against the metal enclosure and the insulation was damaged. The energized conductor contacted the enclosure and energized it. Normally, there is a good connection to ground through the bonding system, and a fault is cleared by the breaker tripping. In this case the bond path was lost, so the metal just became energized.
	Facts and evidence		Photos provided show no bond wiring installed through the conduit. The installation was relying on the conduit itself for bond path. This bond path was lost when the locknut became loose. The Photo also shows the conductors in contact with the enclosure.
	Causes and contributing factors		It is very likely that the lack of bonding combined with the damage to conductors allowed for the fence to become energized.

Photo 1 - Conductors in contact with enclosure

Photo 2 - Overall site view

Photo 3 - Conductors in splice box