Incident Summary #II-1647771-2023 (#42257) (FINAL)

SUPPORTING INFORMATION	Incident Date		December 8, 2023
	Location		Interior
	Regulated industry sector		Passenger ropeways - Surface ropeway
	Impact – Injury	Qty injuries	0
		Injury description	N/A
		Injury rating	None
	Impact – Damage	Damage description	Two damaged towing outfits, broken seats, and towing cord.
		Damage rating	Minor
	Incident rating		Minor
	Incident overview		Complete haul rope deropement from tower, not retained at sheave assembly.
INVESTIGATION CONCLUSIONS	Site, system and components		Skiers and snowboarders are transported uphill on the snow surface (tow path) by carriers (towing outfits) being propelled by an overhead haul rope. The towing outfit consists of a grip on the haul rope, hanger arm, spring box, cord, pole (bar), and platter (seat). Intermediate towers support the overhead haul rope between the load and unload stations. Line sheave assemblies on the towers are equipped with deropement switches to stop the ropeway if the haul rope leaves its normal running position. A retention device to capture the haul rope must be located outside of the sheave if the haul rope leaves its normal running position. An operator must be positioned at the load station to instruct approaching passengers, load passengers, observe departure of passengers, monitor passengers on tow path, assess approaching downhill towing outfits, observe circulation around bullwheel, and be prepared to stop the ropeway if there are any unusual occurrences. Industry best practice is to position an attendant at the unload station. They monitor approaching passengers on the tow path, encourage passengers to unload at the specific unload point, observe the retraction of towing outfits, observe the circulation around bullwheel and are prepared to stop the ropeway if there are any unusual occurrences.
	Failure scenario(s)		During operation of the ropeway there was no attendant positioned at the unload station to observe the operation and unloading of the guests. A towing outfit cord and platter wrapped around the haul rope causing the deropement of the uphill side of the last tower. The haul rope left its normal running position from an uphill tower sheave assembly and was not retained by the sheave assembly containment device. The load attendant did not observe any unusual events from the load station. The lift was stopped by the automated tower deropement switches.

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Facts and evidence	<u>As reported by duty holder:</u> • Tower safeties stopped ropeway. • Load attendant did not observe any unusual events. • Safety monitoring system indicated tower deropement. • Maintenance personnel discovered a complete uphill side deropement of the last tower. • Towing outfits between the second last tower to the top station were on the tow path. • Personnel identified a towing outfit cord wrapped around haul rope just passed the deroped tower. • Personnel uncertain of why/how platter wrapped around haul rope. • No attendant positioned at unload station. <u>Manufacturer Manual:</u> • Attendant to observe loading & unloading areas for unusual events and stop ropeway. • Attendant to monitor passengers on tow path. • Surface lifts with an unattended station must be controlled by one attendant who can perform all operating tasks on the lift. • The responsibility for additional equipment (video monitoring, additional safety devices -platter retraction monitoring) and safety measures lies with owner/operator of the installation to ensure unattended stations are controlled by the one lift attendant. <u>Z98-14 personnel requirements:</u> • Section 13.5.1 b) – *For ropeways, one attendant shall be at each loading station.* • Section 13.5.2 – *Attendants shall be located where they can observe the ropeway operation.*
Causes and contributing factors	The towing outfit cord and platter wrapped around the haul rope likely caused the tower deropement of the uphill side of the last tower. Possibly a passenger outside of the tow path, or falling while on tow path, or unloading at non-designated location may have caused the towing outfit entanglement with the haul rope. The lack of attendance at the unload station in contravention to the operating manual and code requirements and the one attendant from the load station that was unable to observe unusual occurrences on the upper tow path & unload station were likely contributing factors to the deropement.