

Incident Summary #II-1334965-2022 (#26372) (FINAL)

SUPPORTING INFORMATION	Incident Date	February 27, 2022	
	Location	Interior	
	Regulated industry sector	Passenger ropeways - Above surface ropeway	
	Impact	Qty injuries	1
		Injury description	Temporary loss of consciousness, bruised lung and 2 broken elbows
		Injury rating	Major
	Damage	Damage description	N/A
		Damage rating	None
	Incident rating	Major	
Incident overview	Child passenger fell 7.5 meters from carrier at the last tower of lift line before the unload station.		
INVESTIGATION CONCLUSIONS	Site, system and components	The ropeway is detachable quad chairlift. The open carriers, (chairs) are equipped with a restraining device, a lap bar that pivots down over the passenger's head to their lap. The restraining bar is dependent on passenger engagement, instructed by signage, to lower after loading and raise before unloading.	
	Failure scenario(s)	Passengers raised restraining bar in preparation to unload. Ropeway stopped with carrier at the last tower for an unrelated event, upon restart child slipped off carrier seat.	
	Facts and evidence	<p><u>Chairlift:</u></p> <ul style="list-style-type: none"> • Detachable quad chair • Maximum ropeway speed 5.0 m/s • Operating speed was 4.7 m/s • Safety system upgraded in 2018 • DC drive upgraded in 2020 • 2020 Load Test Results: <ul style="list-style-type: none"> - Acceleration time 29 seconds – smooth and controlled - Normal Stop 9.8 seconds 25.5 meters - Emergency Stop (empty) 5.6 seconds 14.6 meters - Emergency Stop (full load) 4.2 seconds 9.8 meters - Lift-line bounce & chair swing only recorded on Control power loss stop (All brakes at once) - Lift-line bounce & chair swing observed of carriers' mid-span between towers • Raise Restraining Bar and Prepare to Unload signage on second last tower <ul style="list-style-type: none"> - Last 2 towers close to each other - Substantial chair height at sign location • Re-start is achievable 3-4 seconds after a stop, if operators are very active on the controls – contractor confirmed • No mechanism built into the safety monitoring system to prevent a re-start of a bouncing lift-line and/or swinging carriers on the ropeway 	

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	<p><u>As reported by duty holder:</u></p> <ul style="list-style-type: none"> • 7-year-old child fell from carrier at tower #16 • Measured fall at 7.5 meters • Immediate professional medical attention required • Child transported to local hospital via helicopter, later transported to a better equipped facility • Child spent multiple days in hospitals <p><u>Witness Statements:</u></p> <ul style="list-style-type: none"> • 4 children all similar age, ski team members, on chair together • Ski Club coach approved children to ride together • The restraining bar was lowered immediately after loading • The children raised the restraining bar prior to last tower • Chairlift then stopped with the chair on the last tower • When the chairlift re-started the child on the far-left side of carrier fell • Child was unresponsive • Other passengers did not report any unusual chairlift operational occurrences <p><u>Lift Attendant Manual:</u></p> <ul style="list-style-type: none"> • No instruction or procedure about ensuring the ropeway lift line bounce & chair swing has settled before re-starting a stopped ropeway • No limitations of children riding chair without adult supervision
<p>Causes and contributing factors</p>	<p>The passenger ropeway stopping and re-starting as the child was preparing to unload possibly caused them to fall from the chair. No safety monitoring system control or procedure for time restrictions (delays) on the re-start of the ropeway and possibly the passengers chair stopped on sheave assembly having more swing may have contributed to the fall. Passengers instructed to raise the restraining bar at a considerable height likely contributed to the incident.</p>



Image - Carrier position at time of fall. 7.5 Meters from underside of carrier to snow surface