

Incident Summary #II-1307372-2021 (#25577) (FINAL)

SUPPORTING INFORMATION	Incident Date	December 16, 2021	
	Location	Interior	
	Regulated industry sector	Passenger ropeways - Above surface ropeway	
	Impact	Qty injuries	0
		Injury description	N/A
		Injury rating	None
	Damage	Damage description	Slight abrasion to haul rope and tower sheaves
		Damage rating	Insignificant
	Incident rating	Insignificant	
Incident overview	Haul rope deroped on an intermediate support tower as crews were operating ropeway to clear snow and ice from carriers and top station. No passengers were on the ropeway at the time.		
INVESTIGATION CONCLUSIONS	Site, system and components	The circulating passenger ropeway haul rope supports the carriers as they move around the ropeway. Intermediate towers support the haul rope with a sheave assembly allowing for continuous travel of carriers as they travel between load and unload stations, which makes up the lift line. Safety switches mounted on each sheave assembly are provided to stop the ropeway if the haul rope leaves its normal operating position. These switches need to be manually reset. A communication cable is suspended from each tower along the entire lift line. The cable carries the wiring for each sheave assembly safety switch and connects the safety system devices of the load and unload station.	
	Failure scenario(s)	The haul rope failed to remain in its normal running position along an intermediate tower sheave assembly causing a tower deropement.	
	Facts and evidence	<p><i>As reported by the duty holder:</i></p> <ul style="list-style-type: none"> Personnel were operating ropeway to clear snow and ice build-up from top station and carriers Ropeway not operating for public Weather conditions made visibility and tower access difficult High wind and precipitation weather events recently occurred Substantial amount of snow and ice (rime) built-up on entire upper lift line Ropeway moved for about 4-5 chair lengths, then tower safety system stopped operation During manual resetting of the tower safety, maintenance personnel discovered: <ol style="list-style-type: none"> Downhill side tower sheave assembly safety switch was tripped Haul rope was deroped to the inside of the tower downhill sheave assembly Communication cable was hooked around a carrier grip in the span of the above deroped tower 	

	<ul style="list-style-type: none"> • The tower span where the communication cable and grip were entangled is the longest on lift line • Communication cable is fastened offset on the downhill side of the tower to the upper cross-member of the tower lifting frame • Build-up on communication cable makes the line sag more than usual • Crews did not visually inspect complete lift line prior to operating the ropeway • Ropeway had a clear safety system until deropement • Maintenance personnel inspected haul rope along with the tower & sheave assembly after deropement
<p>Causes and contributing factors</p>	<p>It is certain that the communication cable entangled on a downhill travelling grip of a carrier caused the haul rope to derope to the inside of a tower sheave assembly.</p> <p>The current and previous days weather conditions, followed by not visually inspecting the lift line before starting the ropeway are contributing factors.</p>

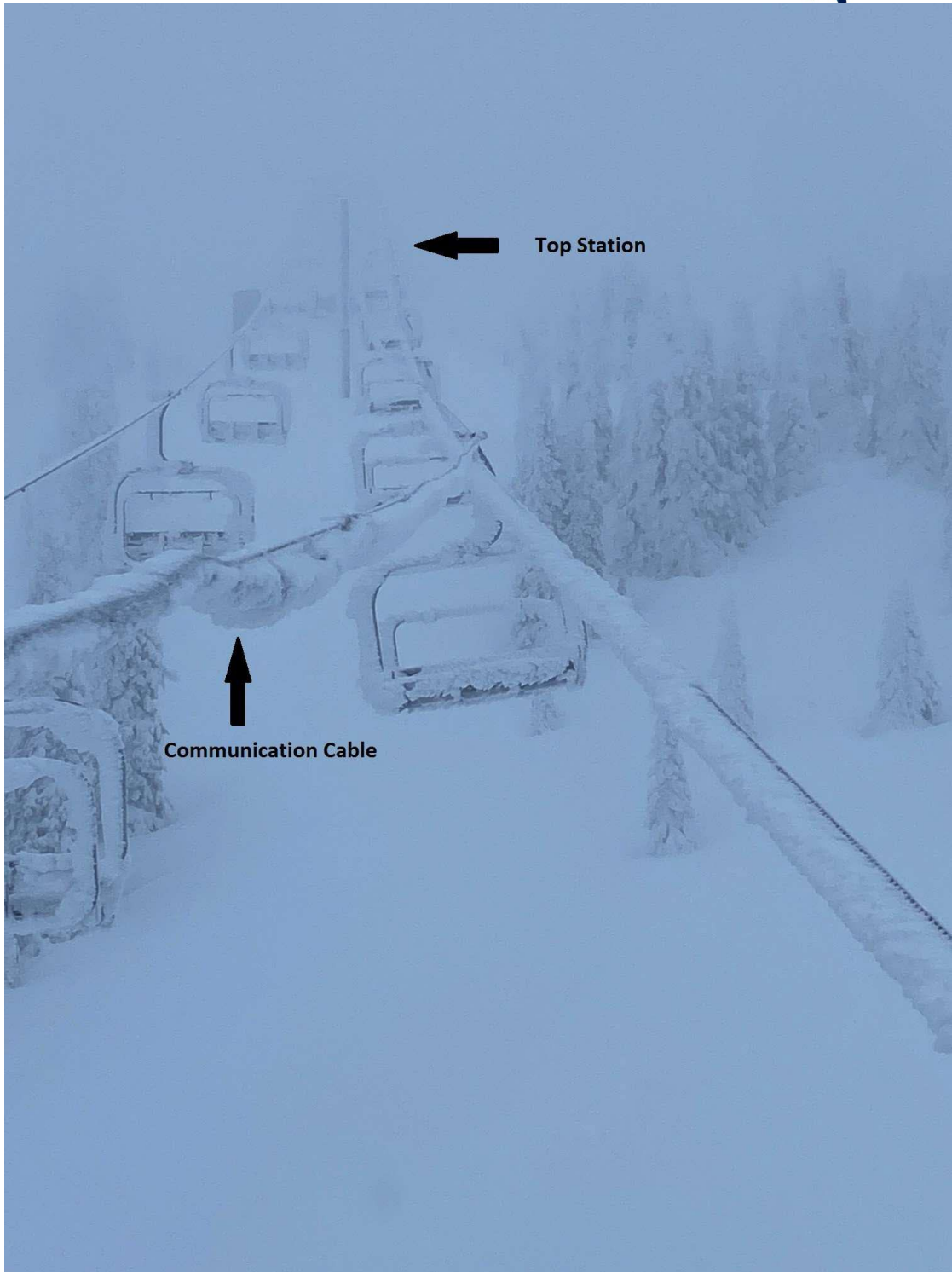


Image 1 - Communication cable hooked on grip of downhill travelling carrier.