
LEITNER-POMA CANADA

Ice formation on structures, cables and cabins.

Concern has been raised regarding ice forming on the Burnaby Mtn Gondola and dropping as “Ice Bombs” similar to what has occurred on the Port Mann and the Alex Fraser bridges.

The chance of this occurring is much less on the Burnaby Gondola than the bridges. Both bridges have a constant flow of moist warm air rising from the river below. During icing conditions the water temperature of the river will be warmer than the surrounding air causing the moist air to rise up to the bridge structure and form ice. There is no local source of moist air on Burnaby Mtn reducing the chances of ice forming on the gondola. Freezing rain does not regularly occur on Burnaby Mtn. In order for there to be enough ice formed by freezing rain to be a cause for concern, ice would be breaking off tree branches in the surrounding area.

The support cables on the bridges are a fixed structure, the gondola cables constantly move when the lift is in operation making it more likely that very small pieces of any ice which has formed on the structure will come off as the gondola moves before the ice gets to a destructive size. The most likely point of ice coming off the gondola is at the towers as the haul rope and cabins pass over the towers, and the track rope and sheave assemblies move to adjust to the weight of each passing cabin. If ice were to form while the lift is operating, it will come off in very small particles like snow at each tower.

If the gondola was found to have substantial accumulations of ice formed while the lift was stopped overnight, maintenance personal will have to climb the towers and manually clear the ice from the towers and observe the lift start up to ensure there are no large accumulations of ice on the lift. The gondola towers are built with ladders and walkways for this purpose.

Mitigation of Ice forming

The lift will have maintenance personal onsite 24/7 as part of the regular maintenance schedule. They will be able to observe weather conditions and take steps to mitigate the formation of ice on the gondola.

One step to reduce ice formation is to operate the lift at slow speed with reduced cabins overnight. The continued movement of the lift will stop ice forming in most conditions. The operators will be able to observe any ice forming and be proactive in adjusting to changing weathered conditions. This will also make for a smoother start up during snowstorms, as the gondola will be operating when the morning shift arrives.

Ice scrapers for the haul rope are built into the terminal structure at each station. Ice scrapers for the track rope can also be mounted on the cabin grip carriage's assembly to clear the track ropes.

Pat Boyle

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