



March 28, 2024

MEMO TO : Park Board Commissioners

FROM : Steve Kellock – Director, Recreation

SUBJECT : **Britannia Arena Operations Interruption – Update – Board Briefing Memo**

Dear Commissioners,

The purpose of this memo is to update Park Board regarding the brine leak that was discovered on March 21, 2024, at Britannia Arena on the ice rink.

Project Update

Park Board maintenance staff began removing the ice surface on March 22, 2024, to allow Polar Engineering to inspect the rink floor with Real Estate, Environment, and Facilities Management (REFM) staff also in attendance on March 25, 2024. The analysis found that the in-floor piping has failed, and brine is leaking from the brine piping to the refrigeration floor. This caused a soft spot to form on March 21, 2024, as the brine mixed with the ice, lowered the freezing point of the ice in this location, and created uneven ice surface.

Potential Cause

To keep ice operational, cold brine (at -10C) is pumped through plastic piping spaced throughout the concrete floor. Over time these pipes can start to leak due to small abrasion points in the floor, caused by rocks or structural steel rubbing the piping. Brine then leaks out from these pipes and causes soft spots on the ice surface. A refrigerated floor life expectancy is 30 years, and the Britannia rink floor is 50 years old.

Remediation Options

The two options for remediation are a temporary fix (approximately 6 weeks) or replacing the entire rink floor (approximately 10-12 months).

1. Temporary Fix

A smaller pipe can be inserted inside the existing broken piping. This will mitigate the leak and is the most reliable method of ensuring ice can be put back in temporarily. This temporary fix will take approximately 2 weeks to pull the new pipe, pressure test the piping, and bring the refrigeration plant back online. After this, it will take an additional three weeks to install a new sheet of ice.

2. Rink Floor (Ice Slab) Replacement

To replace the entire rink flooring and refrigeration system, it will take substantially more time. This is due to the fact that there is engineering work required for design, a requirement to advertise the project through a public tender process, and to have the floor contractor perform the work onsite.

This would provide a permanent fix to the brine leak, as well as other ice issues due to the age of the rink floor.



Next Steps

Replacement of the ice slab and brine piping is part of the planned capital maintenance renewal program to extend the life of the Britannia Arena. The ice slab replacement project is currently scheduled for construction in the summer of 2025. Staff are planning to proceed with the temporary fix (approximately 6 weeks), with the understanding that further leaks may occur. The temporary fix option will limit the long-term service disruption to arena programs, as well as allow Park Board and REFM staff to begin the procurement process of the rink floor replacement, thereby ensuring that the replacement timeline minimizes service disruptions.

Communication will be updated accordingly through regular communication channels and staff will provide messaging to the Britannia Board outlining next steps.

Regards,

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

Steve Kellock (he/him)
Director, Recreation

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Copy to: PB Leadership Team
PB Communications