The purpose of this request for proposal is to frame an opportunity within the Toronto Islands ferry docking process. During the winter months, ice and snow get blown into the u-shaped dock due to the direction of the wind and the opening of the dock itself after fireboats clear the harbour. This poses issues when the ferry tries to dock, lengthening the trip time for passengers, and creating an inconvenience to their schedule. The ferry is arguably the most important connection that the Toronto Island residents and visitors have. Without the ferry, or with limited service, their accessibility is greatly diminished.

With this opportunity, there are primary stakeholders and secondary stakeholders. The primary stakeholders are the ones using the ferry for transportation. This includes the island residents, visitors to the island, and the ferry operators. The secondary stakeholders are those who only interact with the ferry. This includes the Jack Layton Ferry Terminal and Ward Island Employees and the wildlife inhabiting the dock. The success of solving this opportunity would have a positive impact on these stakeholders.

A successful solution for this opportunity can be measured with a list of requirements. There are three main high-level objectives: functionality of the dock, solution usability, and minimizing environmental impact. The functionality of the dock specifies that the implemented solution should not impede the ferry’s docking, but that it should also have effective ice clearance. The solution’s usability specifies that the solution should have little need for maintenance, be easy to operate, and have the ability to tolerate cold temperatures. Minimising environmental impact specifies that the solution should limit underwater noise production, and not release harmful chemicals.

Current solutions that exist on the market include propeller de-icers, bubbler de-icers, ice melt salt, and aviation de-icing liquid. Although these solutions exist, they do not meet the requirements mentioned in this RFP. The propeller de-icer does not limit underwater noise production, the bubbler de-icers cannot prevent ice build up to a low enough temperature, and ice melt salt and aviation de-icers release harmful chemicals and may corrode the dock.