

Policies and Procedures			
The Corporation of the Town of Cochrane			
Department	Community Services	Effective:	December 11, 2018
Subject:	Heat in Stands Policy	Pages:	Page 1 of 2
Approved by:	By-Law 1341-2019	Revised:	

Purpose:

The purpose of this policy is to set forth guidelines for the effective and safe operation of the heaters at the Tim Horton Events Centre, balancing spectator comfort without compromising the integrity or quality of the ice surface.

Procedure:

1. All heaters are only to be operated by qualified Recreation staff.
2. Qualified staff will control heat and maintain temperatures in the building while respecting the minimum ice surface temperature and humidity levels (as recognized by ORFA, NHL, IIHF) are required:
 - Hockey 22 to 24 °F
 - Public Skating 24 to 26 °F
 - Figure Skating 24 to 26 °F
 - 40-55% Relative Humidity
3. The following criteria must all be met in the order for the heaters to be turned on:
 - a. Weather outside must be below 41 °F (5 °C);
 - b. Indoor temperature below 45 °F (7 °C), not to remain on higher than 55 °F (12.5 °C);
 - c. Zones will be turned on incrementally based on attendance.
4. This will be automated through our facility maintenance software that integrates outdoor, ice surface, and spectator temperatures. Arena staff may use their own judgement to turn off any unit heaters where there are no patrons in the section that the heater is directed to.
5. Arena Operators monitor and log every 2 hours (at a minimum) the indoor & outdoor temperatures, indoor humidity, ice temperature, and stand temperatures.
6. Arena Operators and Management, under the Occupational Health and Safety Act, have the right and obligation to turn off the heaters if they feel the ice quality and or participant safety is in jeopardy.

Rational:

There are various factors that affect the quality of artificial ice. Outside weather temperature, indoor air temperature, humidity levels, secondary refrigerant temperatures and the actual ice temperatures (slab base temperature, ice temperature and slab surface temperature) All of these temperatures can play a role. Each of the heaters has an output of over 50,000 BTU's per hour.

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With the rink having 9 heaters (6 in stands, 3 on the dressing room side), we could be adding 450,000 BTU's each hour to the ice. Which will cause the refrigeration plant to run at maximum capacity and run for a longer duration to remove such a heat load. If we were to turn on all heaters for several hours the refrigeration plant would not be able to maintain a proper ice temperature or a safe quality of ice for the users.

Staff are striving for customer satisfaction and comfort while maintaining safe ice conditions for our participants.

External Factors:

Outdoor weather conditions – outdoor conditions can pose a challenge for the operator and the quality of the ice in several ways. A building that has all the best equipment can be put to the test when 500 patrons come in to the building during a rain down pour in the parking lot and their clothes are soaked. This moisture will be released along with the energy they exert based on the excitement of the event. Further, fresh air must be circulated throughout the building. The air being drawn into the building if left untreated through a quality dehumidification HVAC system will cause the ice maker grief. Warm or cold outside air will contribute to different ice conditions.

Indoor temperatures – These conditions will vary based on building design and use. A building that sits empty with no use can easily be controlled. Participants using the ice, patrons coming and going, and flooding the ice all contribute to rising indoor air temperature.

Supporting Documentation:

- ORFA – Ice Temperature Control for Artificial Ice Rinks

http://www.orfa.com/resources/documents/librarydocs/guides_bp/IceTemperatureControlforArtificialIceRinks_2011Final.pdf