Making Ice

While the speed and skill of good ice skaters are noticeable, it is easy to overlook the remarkable surface to which some of our favourite winter past times are showcased. The technology and the process for creating ice are rather impressive. Indoor ice surfaces have been in operated across the Nation since the Patrick brothers (Lester and Joe) opened the doors to the first indoor rink in Canada on 1912 in Victoria, BC yet many people still do not understand what it takes.

The basic technology is the same as refrigerators or air conditioners except that the refrigerant doesn't cool the ice directly. It cools a solution pumped through a piping system embedded in concrete underneath the ice. Making the ice isn't as simple as pouring water onto the concrete surface and waiting for it to freeze. It takes the crew many days and they go through a step-by-step process:

1. The first two layers are applied to the floor using a fine mist (1/30 of an inch think). Creating a sealed base that sticks to the concrete floor.
2. Next are a series of flooding's. Each time warm water is applied to the ice surface, then takes a couple hours to freeze, and repeat, until the desired ¾ of an inch of ice is produced. Each water application generally creates approx. 1/16 of an inch of ice.
3. The next step is to bring in a sprayer (similar to ones used on farmer's fields) and paint the ice white (for a strong contrast between the black hockey puck and the ice). However before their able to do so they need to have marking for the faceoff dots. Orval has always marked the floor first, then put a nut overtop of the floor marking before having the white paint applied. Once the ice is painted the nuts are removed giving a visual of the hockey markings.
4. Three or four coats of white paint are applied to the entire surface (freezing to the cold ice almost immediately).
5. The crew then sprays on a third layer of ice to act as a sealer for the white paint.
6. Hockey paintings are now applied to the surface.
7. Once the markings and logos are dry the crew adds more and more layers of ice (another ¾ of an inch). Noting that the less water you put on at a time the better the ice will be.

Maintaining the Ice

No matter how well the ice is made it needs to be maintained after use. That is where Ice-Resurfacing machines (Zamboni's are used). Zamboni's effectively shave, scrape, wash and squeegee the ice surface then apply a fresh layer of warm water (to fill in deep cuts in the ice and help even out the surface). However impressive the Zamboni machine is there is still manual labour required. Manual ice shaving techniques are required to keep the ice looking and playing great.