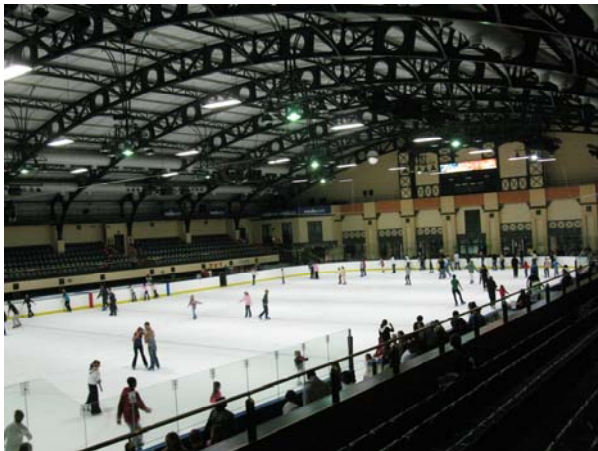




Featured Ice Rink

## The Ice Station Cape Town, South Africa

*"If you build it, they will come"*



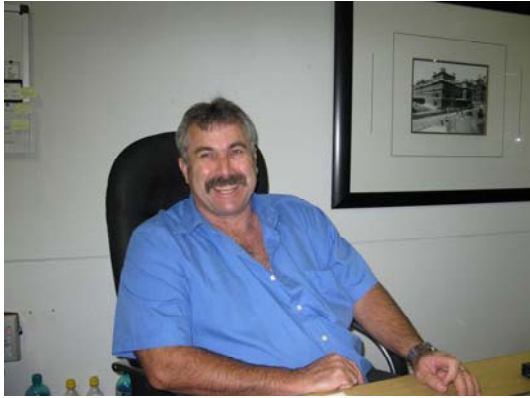
If the ice rink industry has ever had a Cinderella Story, the Ice Station ice arena in beautiful Cape Town, South Africa epitomizes the story in every way.

The Cape Peninsula Ice Skating Club has come a long way from its early beginnings as a very meager volunteer operated arena located in the marshy meadows of Goodwood, South Africa. The original Goodwood Arena was built by Ken Macpherson in 1971. With the price of prime real estate being so high, the Goodwood marshlands were Ken's only option in order to build an ice arena and get the skaters on the ice. In 1986, the Goodwood Arena was taken over by a group of seven parents under a new non-profit organization that they called The Cape Peninsula Ice Skating Club.

Fortunately, in 1997 the large Casino operator Sun International also had their eye on the inexpensive marshland with the intent on building a world class resort but the Goodwood arena was right in the middle of their desired location. The forward thinking planners from Sun International did not see the ice rink as an obstacle but rather an opportunity to further enhance the experience for the patrons visiting the resort. The existing Goodwood Arena would not fit the up-market image of the Casino so some very creative horse trading took place that left everyone a winner. The Casino obtained their land which is now home to The Grand West Casino and Resort. The Cape Peninsula Ice Skating Club received a world class Olympic size ice arena and children's leisure rink that they could call home. The new facility was christened "The Ice Station"

To coin the phrase "*If you build it, they will come*" might be a bit of an understatement. In ongoing customer surveys taken within the resort on a regular basis, the ice arena is consistently the venue with the highest attendance of the entire complex. During a recent public session, 1700 patrons had to be turned away as the ice arena was at maximum capacity both on the ice and in the bleachers.

The journey from the old Goodwood Arena to the competition quality Venue that the Ice Station has become today was not without its challenges. The ice arena industry in South Africa was in its very infancy when The Ice Station was built and the best of intentions and love were distilled into the design but unfortunately the end result was a beautiful structure and a less than adequate ice surface. Almost every problem that can be associated to an ice arena existed under a single roof. The major issues were soft ice all the time, extremely high humidity with condensation, poor lighting and excessive power consumption that could illuminate a small town. The members of the governing board realized that these problems had to be corrected if they were ever to be considered a legitimate host facility for a major international skating event.



The Ice Station is managed by Shern Allely, an ex air force flight engineer who has more practical sense and enthusiasm than most people should be allowed to possess. He is equally comfortable negotiating with vendors, organizing major ice shows or redesigning the ice resurfer to make it more user friendly than any of the new ones

in use today. But probably his greatest attribute is his relentless pursuit of industry knowledge and instilling best practices in his staff. I came to know Shern when he signed up for our educational newsletters 8 years ago and he started emailing me really great questions. Over the coming months we were in regular contact and one day I was asked if I would come to South Africa to teach an operators course for his staff. I am never one to pass up the opportunity to see a new ice arena in a far away country so in short order I was on the plane.

While on site we carried out an equipment survey and energy audit and I started to realize the magnitude of the problems they were facing. We presented a cost-benefit analysis of various upgrading options and decided to start by installing a computer control system, which would allow us to gather the ongoing data necessary to properly evaluate which would be the most logical steps to take in the future. Following a short monitoring period we had enough information that we were able to harvest the low lying fruit where instant money savings could be obtained with minimal or no additional costs. CO and CO2 sensors indicated that there was a lot more fresh air entering the ice arena than was necessary. With all the exhaust and supply fans under our control it was an easy thing to provide demand ventilation which kept out unnecessary heat and humidity.

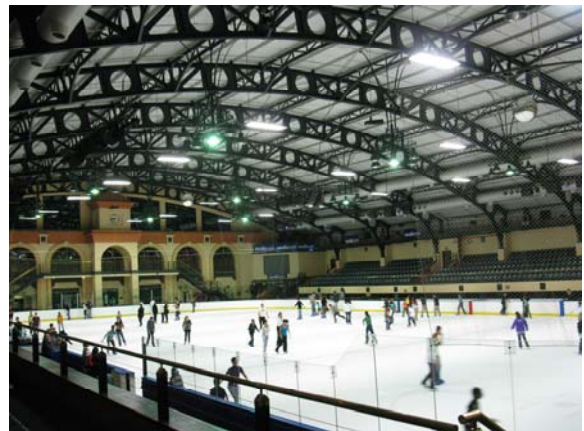
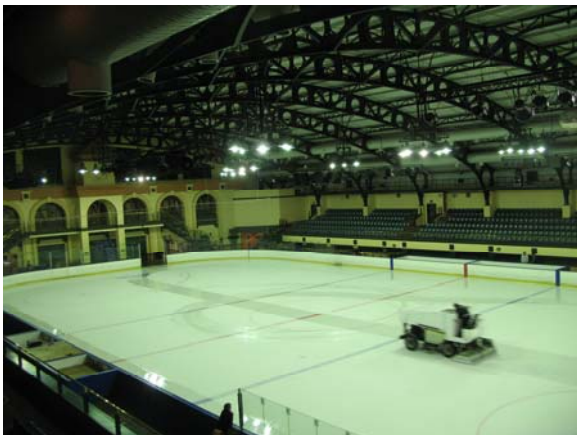
There were a number of electrical loads such as sub-floor resistance heaters that we were able to stage so that they did not run while the refrigeration compressors were on. This significantly reduced demand charges.



The Zamboni room is 300' from the compressor room so there never was a heat exchange system employed to melt the snow. Instead, domestic hot water was used as the snow melt pit filled up. The snow melt pit was reworked to dump through a chute in the wall into a simple outdoor holding tank where the ambient temperature could melt it rather than using

the hot water. The water was then used to irrigate the trees and gardens around the resort rather than going down the drain. Water is a very valuable resource in South Africa so conservation methods are very important to the facility.

The lighting system was upgraded to T-5 fluorescents from Mercury Vapor and light staging was employed for various levels of events from practice sessions right up to camera ready events. The level of lighting and color rendering was dramatically improved while the cost of operation was significantly reduced. Improved lighting is just one of those things that everyone notices, enjoys and comments on from the very first day it is turned on.



The chillers, pumps and valves were insulated in order to reduce parasitic heat gain into the refrigeration system. In total there was 180 square feet of un-insulated refrigerated steel surface in a plant room that regularly exceeded 110F. An extra 50% of heat transfer area was added to the plate and frame chillers by installing extra cassettes. The enhanced system efficiency, added capacity and improved flow rates resulted in the ice surface being hard for the first time without the addition of any compressor horsepower.



The most significant improvement involved re-working of the dehumidification system that utilized chilled water and electric reheating coils. In spite of the enormous amount of energy the old system consumed, the dehumidification was totally inadequate and the arena was always cold and damp. The original electrical resistance reheat coils consumed a total of 174 kilowatts per hour and never shut off. We totally replaced the electric resistance heaters with desiccant assisted dehumidification driven by 100% heat reclaim from the refrigeration plant. The result was a dry arena, warm bleachers and an annual energy reduction of over 1.25 million kilowatts!



After all of the positive changes were implemented the end result is a beautiful and well lit arena that is always dry with warm bleachers and a perfect ice surface that consumes 70% less energy than it did at the beginning of the process. Does The Ice Station make the grade? The International Skating Union thought so and as a result The Ice Station just hosted their very first and highly successful Four Continents International Figure Skating Championship. What is next for The Ice Station? Their goal is to advance their skaters to become Olympic level competitors. With their determination and willingness to invest in the future of their skaters, I know that Olympics are not far off for The Ice Station.



For its sheer beauty and wonderful climate, I highly recommend Cape Town as a wonderful destination. Recently I encouraged a Canadian hockey team to spend their annual hockey getaway at The Ice Station. Shern Allely and his staff showed them an incredible level of hospitality and they reported back that it was the best hockey adventure that they have had to date.

For more information about The Ice Station you can check out their website at [www.icerink.co.za](http://www.icerink.co.za)

Accent Refrigeration Systems are world leaders in Ice Rink Construction, Energy Efficiency and Heat Recovery. We have over 50 valuable applications for your waste heat. If you are planning on building a new ice facility or would like to improve the operation of your existing facility, give us a call and we would be glad to work with you to make your facility efficient and profitable.

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