

Amalie Arena

CASE STUDY



Supplemental cooling system provides comfort; meets stringent NHL requirements to maintain ice quality during season playoffs.

Challenge

As excitement heats up in late-season National Hockey League (NHL) games, so does the Tampa Bay weather. This increase in air temperatures, combined with rising humidity levels, is challenging for Amalie Arena when the Tampa Bay Lightning is a playoff contender. To meet the NHL's strict building temperature, humidity level, and ice quality requirements, the facilities team knew a supplemental cooling system would be needed for second round and subsequent playoff games.

"In order to provide the best playing surface for the games, the NHL requires ice temperature readings and humidity levels to stay within a certain threshold, around 65 degrees with 45 percent relative humidity and a dew point of 39-40. We know if the Lightning gets into the second round of the playoffs, we will need supplemental cooling installed prior to the first home game. It's something we plan for, and must be ready to deploy."

Solution

In anticipation of a winning season, Amalie Arena took a proactive approach, sending out a request for bid for supplemental cooling during second-round and subsequent playoff games. The arena chose Trane Rental Services for the temporary supplemental cooling system project based on an ongoing successful service and maintenance relationship, and the company's proposed turnkey rental solution.

Meeting specifications with a turnkey solution

Using their past experience working with the arena, Trane Rental Services developed a solution that would provide 40K CFM desiccant dehumidification gear and two 200-ton air-cooler chiller/airhandler combinations. The chiller/air-handler combinations pre-cool 100 percent outside air, which is routed through desiccant dehumidifiers and then through another air handler before it is fed into the arena's duct system. The scope of the project also included lay-flat and spiral duct solutions, crane services to unload all rental equipment from delivery trailers to the designated locations, an electrician to connect the rental gear to house power, and a generator to run

"Warm outside air coming in and ambient humidity during certain times of the year, like late-season when the team advances in the playoffs, can make the ice too soft."

- **Steve Butler**, Director of Facilities,
Amalie Arena

Amalie Arena Tampa, Florida

PROJECT HIGHLIGHTS

CHALLENGE

Rising temperatures and humidity levels during late-season playoff games
Need for supplemental cooling
Strict NHL requirements

SOLUTION

Trane turnkey solution
Flexible rental contract with extension option
40K CFM desiccant dehumidification gear
Two 200-ton chiller/air-handler combinations
Lay-flat and spiral duct solutions
On-site technician

RESULTS

Maintained comfort for players and fans
Met stringent NHL requirements
Provided quality ice for playoff games



Amalie Arena

CASE STUDY

equipment on the southwest side of the building. As an insurance policy, the Trane solution provided a qualified, onsite technician prior to and during all games when the rental equipment was in operation.

For aesthetics and safety, six-foot-high fencing with a privacy screen was installed to enclose the gear for the duration of the project. The temporary fencing provides clearance to allow for pedestrian traffic on all sidewalks.

"The rental system provides us with flexibility. We close the outside intake and start running it the day before a game to pre-condition the air. To save costs, we shut the systems down when the team goes on the road," said Mr. Butler.

Results

Trane Rental Services provided a turnkey supplemental cooling system solution to address the needs of Amalie Arena during late-season NHL second-round and subsequent playoff games. The rental system helped the facility maintain a comfortable environment for fans, players and staff during the games. As a result of the rental equipment, the arena is meeting NHL standards as verified by air and ice quality measurements taken during each game.

"The Trane solution helped us eliminate some of the risk," said Mr. Butler. "We had coverage through three rounds of the playoffs. If the Lightning advanced into the fourth round, we had the option to extend our rental agreement for another week or two."

"Things worked well this past year," added Mr. Butler. "We were 100 percent sold out, which means there was more heat in the building. Without the supplemental cooling, the temperatures would have been too hot, which would have affected the quality of the ice."

"The onsite Trane technician is a definite plus. The NHL also has a representative there for each game, working with the ice crew to make sure everything is meeting specifications."

- **Steve Butler**, Director of Facilities, Amalie Arena



About Amalie Arena

Originally named the Ice Palace, the 670,000-squarefoot Amalie Arena opened in 1996 with the Royal Hanneford Circus. Today the arena ranks among the top venues in North America, hosting more than 150 events each year, including hockey games, basketball tournaments, political conventions and other entertainment. Amalie Arena is home to the National Hockey League's Tampa Bay Lightning.



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit trane.com or tranetechnologies.com.

All trademarks referenced in this document are the trademarks of their respective owners.

© 2020 Trane. All Rights Reserved.

CASE-SLX518-EN
04/20/2020