Landmark Communications, Inc.

Retrofitting a production house into office space...you can't just add desks and people

The Virginian-Pilot
PilotOnline.com

Landmark Communications, located on Brambleton Avenue in Norfolk, VA is home to many different publications that serve the Hampton-Roads area. However, it is best recognized for *The Virginian- Pilot,* the most circulated newspaper in the state of Virginia with a quarter million daily adult readers.

The Landmark building was originally constructed in 1937 to be the production house for several publications. Years later a new production house was built, and the building was converted into office space.

Desks and people were added. Computers, printers and scanners replaced the old machinery but the people located below the penthouse, where the HVAC system was located were being disrupted by a very loud rumbling above them. Soon, complaints started streaming in so something had to be done.

Although a load calculation indicated the building only needed a 500-ton chiller, the original HVAC system was composed of a 650 and a 450-ton chiller to compensate for the heat produced by all of the machinery required for producing newspapers. The two chillers were matched up with specific cooling towers that were in disrepair.

The first project (or Phase I) completed was the replacement of the two large cooling towers located on the rooftop with three smaller ones. The original design dedicated a cooling tower to a specific chiller. When problems would occur with any piece of equipment the system would have to be switched over manually. When the three new cooling towers were installed, the two chillers were interconnected to each of them in case of an emergency. All three cooling towers had variable frequency drives installed to decrease energy usage. The new towers left more room on the rooftop for other equipment and easier maneuverability for service.

There was still a problem. The workhorse of the HVAC system was a 30 year old 450-ton chiller leaving the newer 650-ton chiller as back up. The age of the smaller chiller meant it was inefficient and parts and labor were more expensive and harder to find. The back up chiller was too big for

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the office space and it used R-11 refrigerant, which has been phased out for a number of years. It was also extremely loud and produced a lot of noise and vibration, which led to many complaints by employees. Landmark needed something more reliable, efficient and most importantly QUIET. This led to Phase II of the project.

The 450-ton chiller was still relatively quiet and in fairly good working order, however, due to its age it needed a better back-up. The 650-ton chiller proved to have many important elements working against it so it was disassembled and replaced with a Trane CVHF 500-ton water chiller, equipped with a variable frequency drive to increase energy efficiency and it eliminated the use of R-11 refrigerant.

The chiller also is equipped with a control panel in order to provide easy monitoring. It is also tied into a Trane Summit System which allows the, Property Operations Manager, Gary Nye, to see a complete picture of the HVAC system when disruptions occur at all times. Nye stated, "The initial design and installation was well planned from the beginning of Phase I to the end of Phase II."

Not only were the cooling towers and a chiller replaced, but also the mechanical room received an overhaul and was repainted. All piping is now color coded to make maintenance easier. Labels were added to ensure proper identification of all equipment, monitors and electrical elements.

The equipment room upgrades mean that Landmark now meets ASHRAE 15 guidelines by including a multi-channel, dual refrigerant monitor, alarms, signs, refrigerant exhaust fan system with ducting and rupture disk piping for both chillers.

Since sound reduction was the customer's primary concern, it was the gauge used to measure the success of the project, as well as, energy efficiency. The chiller, chilled water and condenser water pumps were mounted on isolation springs. The electrical conduit, condenser, chilled water, drains, and rupture disk piping were installed with flexible connectors preventing vibration and noise from transferring directly to the equipment room floor. When the new chiller was started up there were zero complaints from Landmark employees. The difference was noticed immediately by Gary Nye, who stated, "I knew the machine would be quiet but, it's even quieter than I expected."

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