

POWER PROFILE

Customer: Arbors of Hop Brook

Location:

Manchester, Connecticut

Customer Business Issue:

Reliable standby power

Solution:

D350 GC diesel generator set

Cat® Dealer:

H.O. Penn



The Arbors provides a lifestyle that offers attractive residential suites, all-inclusive amenities, and a full continuum of healthcare services—all on one campus.

POWER NEED

Based in Manchester, Connecticut, Arbors of Hop Brook is a Continuing Care Retirement Community (CCRC) life-plan community that provides senior care in an environment that maximizes resident independence along the continuum of care.

The Arbors provides a lifestyle that offers attractive residential suites and all-inclusive amenities, such as chef-prepared dining, housekeeping, transportation, 24-hour security, and a full continuum of healthcare services—all provided on one campus.

A skilled nursing facility operated for two generations by the same family-owned management company is adjacent to the Arbors, allowing residents to transition from one facility to the next when needed.

“As an independent residential life-plan community, this is a place where an individual or a couple can reside in an apartment. But they’re monitored and continually have access to a full continuum of health care,” says Brian Liistro, a managing member of the Arbors.

“And if there is a healthcare issue where they can be treated at the hospital and have a procedure, they can come back here to the Arbors and recuperate here, or they can go right next door to Manchester Manor, which is a skilled nursing facility. If it’s a partner situation, a husband and wife, it’s very convenient for one partner to go visit the other partner next door at Manchester Manor—we have our own transportation service.

“Instead of living by yourself in a condominium or living at home alone, here you’re with caregivers that are cleaning your apartment once a week,” Liistro adds. “If you don’t feel right or something’s not right with you, there’s a nurse on staff, including holidays. So any time of the year, any day of the year, you can get immediate care here.”

Staffed by 55 people, the Arbors includes a dietary unit, caregivers who are all on site, and a physical plant and engineering department.

With a total capacity of 114 residential suites, the 130,000 square-foot, four-story building recently transitioned to a highly efficient heating and cooling system. In the past, the Arbors operated with a chiller for cooling and condensing boilers for heating. However, during the transitional times of year, when temperatures can vary greatly, the system lacked the ability to quickly switch over to provide the necessary climate control.

“When we turned the chiller on, we would keep it on for the next six or seven months,” Liistro says. “But with climate change and global warming, some days during the transitional weather months can be as warm as 80 degrees or the next week, it could be really cold,” Liistro says. “So during the shoulder season, things are not like they used to be.”

To better serve the needs of its residents, a new variable refrigerant volume (VRV) system was installed at the Arbors. A VRV is an all-electric system that uses next generation heat pumps to provide space heating and cooling to building spaces and is capable of serving multiple zones in a building, each with different heating and cooling requirements. VRV technology alternates the refrigerant volume in a system to match a building’s precise requirements.

“The crucial piece here is that our residents have adequate heating and cooling anytime they want it,” Liistro says. “Some 33 years ago when the building was constructed, the summers weren’t as warm as they are now. We have to be cognizant as a senior care operator that the apartments are sufficiently cooled during the summer months.

“We’re going through a heatwave right now as we speak,” Liistro said in late August 2021, after the remnants of a Tropical Storm Henri passed through the area. “It’s going to get extremely humid. If we lose power during a storm, our residents would be extremely uncomfortable if we didn’t have that good, clean power.”

SOLUTION

The new high-efficiency VRV heating and cooling system required a new backup generator with a higher power output to ensure it continues to operate when grid power is lost.

“So, we had to make sure that the emergency power was as clean or cleaner than the power we receive from the public utility,” Liistro says. “Our mechanical contractor and electrical contractor advised us to be extremely careful with regard to the backup generator we selected. After a thorough review by our contract engineers, they recommended a couple of equipment manufacturers backed by quality dealers with certified service teams who had training and field experience with their products, and we chose to go with Caterpillar.”

POWER PROFILE

Customer: Arbors of Hop Brook

The selection of a Cat® D350 GC diesel generator set was driven not only by quality power considerations, but also the compact footprint of the unit. The D350 GC genset has a maximum power rating of 350 kW and requires up to 33 percent less installed space.

Given that the new unit was installed in the same spot outside the building as the previous generator, it had to conform within certain size parameters to satisfy the local fire code.

“One of the one of the main reasons that we went with Caterpillar is that they offered a more compact unit at the exact size we needed to support the heating and cooling system compared to a competing unit we were looking at,” Liistro says.

The power systems division of Cat dealer H.O. Penn also provided engineering support.

“H.O. Penn helped us with the design, and they verified the calculations that our electrical engineer provided,” Liistro says. “They looked at the system demand—our electrical engineer had all of our electric bills and they evaluated them. But there was another layer of quality control—H.O. Penn reviewed the numbers to make sure the math worked. If there was a question, they were going to identify it before our generator was built to our specifications.”

Mike Thibault, a sales engineer with H.O. Penn, was familiar to Liistro, having called upon him many times in the past. Once the sale was complete, Thibault handed him off to H.O. Penn project manager Mike Gaudiello, who guided the rest of the process, including delivery, installation, and commissioning.

“All through the process, he kept me informed of what was happening,” Liistro says. “He was well organized and very capable. When it was getting close to delivery, he told me to go ahead and get a concrete pad poured and give it enough time to cure. Then he came out and measured it to make sure it was the correct size.”

RESULTS

When the new Cat genset was delivered in May 2020, a team from H.O. Penn was waiting to handle the crane lift and the installation. Within less than 48 hours, the new Cat D350 GC generator set was commissioned and online.

All generator maintenance is handled by technicians from the power systems division of H.O. Penn. The Cat generator at the Arbors is covered by a Customer Value Agreement (CVA), which offers resources for maintenance planning, repairs, rebuilds, and upgrades, along with diagnostic and troubleshooting support. A CVA also includes expert dealer advice and training options.

For added protection, Liistro opted for Extended Service Coverage (ESC), which provides coverage beyond the standard warranty period for parts and labor expense on covered components. ESC helps to avoid unexpected repair costs caused by unscheduled repairs and also budget for unexpected repairs while locking in costs up front.

“When you’re delivering high-quality health care in a continuing care or life-plan community, you need to have service contracts on everything—from refrigeration to your elevators to your backup generator,” Liistro says. “If you have a high-quality machine and then it goes down for some silly reason, like a faulty emissions sensor, you need to be able to get on the phone and call for service.”

“H.O. Penn is 30 minutes from us, and the service they provide is exceptional,” Liistro continues. “We have a great team here at the Arbors. But when you get into this kind of sophistication with these generators, we let H.O. Penn take care of that—they’re the experts.”

“We have an ultimate responsibility for taking care of our residents, so we want the best here. And we want the Cat dealer working on our standby power generator.”



The Cat® D350 GC genset requires up to 33 percent less installed space, fitting within exact size parameters at the facility to satisfy the local fire code.