



**Q&A with Lou Capozzi
Facilities Manager
Genzyme Center, Cambridge, MA**

What was your role in the Genzyme Center project?

I was put on site in the beginning to oversee the commissioning of all the equipment. I work with our vendors to ensure that equipment like the HVAC systems; the TAC building management system (BMS) were running properly after they were installed.

For example, Genzyme supplied specification for the way the HVAC system should work and I made sure they were met and any problems were resolved during construction, instead of afterwards. Commissioning is a part of the green building process. It costs money to do it, but in the end, you end up saving a lot of money.

How long have you been with Genzyme?

I have been with Genzyme for six years. I come from a mechanical background -- air conditioning, refrigeration and heating. Prior to Genzyme I was a service manager for an HVAC company.

How do you like working at Genzyme?

I like it very much. The company itself was built with open concept and it starts with the CEO, Henry Temeer He said, "enjoy work, do the job, don't be miserable." We just did a survey of 1000 employees and the responses were very positive. Our sick time ratio is down to less than 1%.

What role did integration play in building Genzyme Center?

It controls the building process. We provided TAC with the requirements and the deliverables and they came up with a great plan. Their systems take care of 40,000 points of control including light, heat, AC, and monitor the fire alarm.

For example, 900 stainless steel blinds that were delivered from Germany (Warema) are monitored on the TAC system. The blinds reflect the sunlight off the first two rows of ceiling panels, which are also stainless steel. Many people say the building moves. As the sun moves, the blinds tilt to reflect more sunlight into the offices. The concept was to make it possible to walk into Genzyme Center without having to worry about removing your sunglasses so you can see. We achieved that.



Even more light is brought into the building by seven 5 ft. x 5 ft. rotating mirrors called heliostats (Bomin Solar) on the roof of the building. The heliostats follow the sun and reflect the light through prisms, which in turn shines the light onto chandeliers that deliver sunlight to the whole building.

The BMS is the brain that monitors everything in the building, including the mirrors and blinds, even though they operate on separate software; they are linked in to the BMS. Having the BMS enabled us to have two less technicians for the building. It monitors everything 24 hours a day and if anything goes wrong it sends out a message.

How many buildings does Genzyme operate? Are any of them Green too?

We have 9,000 employees in offices in 80 countries around the world. We are just now acquiring more space in China. It and all buildings or new space that we build or renovate from now on will at the very least be certified green buildings.

Why is that?

Our CEO says, "It's the right thing to do." Green building helps the environment. For example, there is no Freon in this building, nothing that would damage the environment. Everything is recyclable. In our cafeteria upstairs all the food and cans are sent to the recycler. The food that people scrape off their plates is sent to a pig farm.

The building has no boilers. We buy steam from the steam plant next door, which supplies the steam that is used to run the turbines that make electricity for the Cambridge area.

How did TAC help with integration as the project went from start to finish?

TAC controlled the building. If not for TAC, we would not be able to be in this building. There would be no heating, cooling or lighting. TAC supplied the basic BMS and ensured that what we said we wanted it to do, it would do. They catered to us and they did a great job, I have to admit. There were a few glitches here and there, but for the most part the BMS controls, 40,000 points. They did a great job.



Now that Genzyme Center is finished, what are the benefits that Genzyme and its employees now enjoy thanks to that integration, especially as it relates to energy use?

We are just starting to benchmark our efficiency based on what we did the first year and we have already found ways to save more money.

With the BMS, we are able to control the building's lighting, the steam and the AC. Another thing it does is flush the old air out of the building. When the temperature is around 70 degrees and the wind is less than 5 mph. at 11 p.m. and 2 a.m. the BMS opens all the windows, pushes the old air out of the building, and takes in new air.

I also noticed that our lighting cost was too high and then found that people were leaving their lights on all night. We wrote a program for that which turns those lights off every night.

And early on, we found that many people were lowering their AC to 60 degrees in their offices. Now, at 10 p.m. each night, the BMS resets the entire building to 74 degrees, whether or not that requires heating or cooling to maintain that temperature. That's been working fairly well.

During the summer, we keep the building at 76 degrees. That sounds warm, but the way they set this building up, we have 560 fan coils on a four-pipe cooling and heating system. The fans constantly run at low speed and provide a constant breeze that you do not really feel, but is enough to keep the air moving. In winter, we keep it at 74 degrees.

Congratulations on receiving the USGBC's highest Platinum LEED rating. What does a platinum building have that makes it better than the rest?

Thank you. We earned the points we needed with many features. We have points for waterless urinals and using two buttons for flushing in the women's restrooms. Our carpets are all recyclable.

We also have a "green roof," which I think all buildings should have. The roof has 6,000 sq. ft. of plant life that provides a lot of insulation, absorbs water, and slows the amount of water going down the building's drains. Much of that rainwater is filtered, captured and stored in four 200-gallon tanks on the roof to water our plants in the summer.



Does the Platinum rating that mean your Green Building efforts are over? If not, what's next?

Every day we look for ways to save more energy or make what we are doing now better. Even if we have the best, we want to know what else we can do.

For example, we are going to put a smaller meter in our steam pipe interface because we found out we were using too much steam. We believe it will result in an approximate 40% savings.

Also, there was no humidification system when the building was built. However, it got too dry, so we solved the problem by heating the water in the water feature on the first floor of the building and that brought up the humidity to a comfortable level.

The U.S. Green Building Council has meetings here and they talk to us and ask us what we are doing when they are here. However, once you earn the Platinum rating, it is like a Grammy Award, they cannot come back and take it away from you.

What is TAC's ongoing role with GC now that the building is up and running?

TAC's support is great. The company's ongoing role is to help us with any bugs that come up with the BMS system. TAC supports us and backs us up any time we have an issue. TAC has been a great partner.