



ENERGY RESILIENCE IN ACTION: CCHP RECOVERY FOR A \$67M UNIVERSITY VILLAGE

An off-campus facility that houses 650 students in a \$67 million mixed-use village on a 34-acre parcel of land is an innovative public-private partnership between a Mississippi D-1 university and the largest apartment property manager in the U.S. These partners, as a part of their clean energy infrastructure project, had a Combined Cooling, Heat and Power (CCHP) designed and installed. The goal was to operate a centralized heating and cooling plant that runs efficiently and economically to provide HVAC and electricity to the entire complex with maximum resiliency in the event of grid failure. The energy consultants working with the partnership contacted CoolSys when the unit was inoperable at start up.

The Problem

An in-depth inspection by CoolSys of the CCHP equipment identified areas requiring additional integrations and upgrades prior to start-up and then commissioning of the inoperable cogeneration unit. Though the partnership had numerous goals, they did not have adequate internal resources to properly maintain the new equipment and achieve their efficiency and sustainability goals.



Off-campus facility

The Solution

The CoolSys Energy Solutions team stepped in to address the property's challenges, employing a multifaceted approach to assess, repair, customize, commission, monitor the systems 24/7/365, and maintain to prevent further outages and inefficiencies.

Key Actions



DIAGNOSTICS & ISSUE RESOLUTION

CoolSys CoGen specialists conducted a thorough technical assessment of the systems, pinpointing the root causes of the integration errors and inefficiencies in the overall system.



OPTIMAL COMMISSIONING & SYSTEM UPGRADES

CoolSys customized the system and commissioned the CCHP unit to enhance overall operability. CoolSys calibrated the infrastructure to operate in optimum balance with other critical systems, such as the absorption chiller, external radiators, and existing boilers, ensuring seamless operations and maximum energy efficiency.



PREVENTIVE MAINTENANCE IMPLEMENTATION

CoolSys introduced a comprehensive preventive maintenance program covering all system components. This included regular inspections, calibration, and predictive replacements to prevent future failures.



24/7/365 MONITORING & REAL-TIME RESPONSE

Once the CCHP unit was commissioned, CoolSys Energy Solutions implemented 24/7/365 monitoring and maintenance services for the College View.

The Results

The results of CoolSys CoGen's commissioning, monitoring and service were transformational for the client organization. Addressing both the immediate and long-term inefficiencies, the facility experienced measurable improvements across key performance indicators. The success of this project strengthened the client's trust in CoolSys. Recognizing the value and reliability delivered, the property managers have extended CoolSys' maintenance and monitoring services for five additional years. This expansion further underlined CoolSys' position as a trusted partner in ensuring operational excellence.



View of the CCHP system installed in the facility

✓ OPTIMIZED OPERATIONS

The CCHP system now operates at an impressive **98%+ availability year after year, while delivering more than 42,000 operational hours of resilient**, efficient power to the property consistently and reliably.

✓ IMPROVED ENERGY EFFICIENCY & COST SAVINGS

The facility **reduced costs by \$200,000 annually totaling \$1.2M over the 6 years the systems have been under CES care. For this reason, the client has decided to extend the agreement for an additional 5 years.**

✓ ENVIRONMENTAL IMPACT

By optimizing the system's energy use the off-campus student housing complex significantly reduced its **greenhouse gas (GHG) emissions by 39%**, reinforcing its commitment to environmental sustainability.

✓ ELEVATED RESILIENCE & REAL TIME RESPONSE

By properly calibrating and maintaining the systems, **the CHP units exceeded the projections with 98%+ resiliency.** The monitoring and service played a vital role during an emergency on-site situation ensuring students had domestic hot water, HVAC heat and operating elevators without interruption at a crucial time.

"CoolSys has exceeded our expectations and displayed unmatched expertise and diligence in the success of the College View MSU Clean Energy Infrastructure Project. CoolSys played a vital role in the midst of an emergency situation on-site to help ensure that our 656 college students were able to receive domestic hot water and HVAC heat. They are also willing to go above and beyond to ensure we are getting the most benefits out of our system by providing a preforma of the CoGen system."

~ Criston Stafford, Community Manager, College View

Project Highlights



Resiliency **98% Uptime**



GHG Emissions Reduction **by 39%**



Cost Reduction Over **\$1.2M**



Unit Operational Hours **42,000+**

Ready to cut costs, boost resilience, and lower emissions?

Discover how CHP, CoGen, and Multi-Energy Solutions from CoolSys can power your business efficiently. Contact us to learn more.

CoolSys.comcogeneration-combined-heat-and-power/

