



COGEN MAINTENANCE & REMOTE MONITORING SOLUTIONS

The leading New York City cancer center had six 555kW Combined Heat and Power (CHP) Systems in place to increase energy efficiency and improve the resilience of the critical infrastructure. However, despite their in-house technicians' expertise, the systems were underperforming, jeopardizing the infrastructure's resilience and energy efficiency

The Problem

Despite the dedicated efforts of in-house technicians, the cancer center's six 555kW CHP systems struggled with persistent performance issues. The systems frequently failed and required time-consuming repairs, which increased operating costs. In addition, the critical infrastructure was compromised during each power failure, which jeopardized the center's ability to operate during emergencies and required the facility to be evacuated in one crucial instance.



The Solution

CoolSys CoGen's expert team stepped in to address the center's challenges, employing a multifaceted approach to assess, repair, retrofit, 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 underperformance. From network glitches to incorrect calibrations, all issues were addressed and resolved.



OPTIMAL COMMISSIONING & PLANT BALANCING

The units were calibrated to operate in optimum balance with other critical systems, 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

A central pillar of the solution was the implementation of constant system monitoring to detect and resolve issues as they occurred. The efficacy of this approach became evident when, shortly before midnight on New Year's Eve, a power failure disrupted four out of the six units.

Within minutes, the monitoring team identified the issue, connected with the local technicians, and assisted the on-call shift operator in resetting the network protection. All compromised systems were restored to full functionality in under 30 minutes—a testament to the resilience of CoolSys' solution.

The Results

The results of CoolSys CoGen's intervention were transformational for the client organization. By addressing both the immediate and long-term inefficiencies, the center experienced measurable improvements across key performance indicators. These CHP units were part of a comprehensive energy project that **won the 2023 Energy Project of the Year from the New York Chapter of the Association of Energy Engineers** and earned a reliability credit from the electrical utility service.

OPTIMAL COMMISSIONING & PLANT BALANCING

The six CHP systems now operate at an impressive **98%+ availability year after year**, delivering 20M kW of resilient, efficient power to the hospital campus consistently and reliably.

IMPROVED ENERGY EFFICIENCY & COST SAVINGS

The center **reduced required heating energy by 23% (or 86,055) which resulted in a \$10.5M annual reduction in energy costs**, reallocating savings to its critical healthcare endeavors and reduced chilled water generation by 20% (6M ton-hrs).

ENVIRONMENTAL IMPACT

By optimizing the system's energy use, the cancer center significantly reduced its **greenhouse gas (GHG) emissions by 34%**, reinforcing its commitment to environmental sustainability.

ELEVATED RESILIENCE

The resilience improvements ensured that during power outages or emergencies, the cancer center could maintain uninterrupted operations—a milestone illustrated vividly by the rapid recovery during the New Year's Eve episode and **over 98% availability**.

Expansion of Partnership

The success of this project strengthened the client's trust in CoolSys. Recognizing the value and reliability delivered, the organization extended CoolSys' maintenance and monitoring services to critical generators across 25 additional facilities. This expansion further underlined CoolSys' position as a trusted partner in ensuring operational excellence.

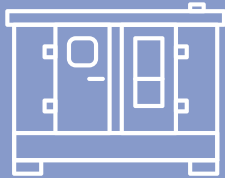
Are you ready to save money, protect your business from outages and reduce GHG emissions for your commercial and industrial business?

Discover the benefits of CHP, CoGen and Multi-Energy Integration Solutions, combining energy efficiency with resilience. Contact CoolSys to learn more.



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

Project Highlights



6 CHP Systems
X 555kW



98%+
UPTIME

ANNUALLY

34%

REDUCTION OF GHG
EMISSIONS

23%

REDUCED HEATING
ENERGY

\$10.5M

REDUCTION IN
COSTS

**24/7/365 monitoring allowed a
37 minute response time from
shutdown to back online**

