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Innovative Cooling Tower Technology Achieves Significant Environmental and Efficiency Gains

HARRISBURG, Pa. – Infinite Cooling Inc. and the Susquehanna River Basin Commission (SRBC) are excited to announce the successful completion of a landmark cooling tower upgrade pilot project in collaboration with the Lancaster County Solid Waste Management Authority (LCSWMA) at their waste-to-energy facility in Harrisburg, Pennsylvania.

The pilot project retrofitted LCSWMA's three-cell cooling tower with Infinite Cooling's cutting-edge TowerPulse™ technology on all three cells and WaterPanel™ technology on one cell, marking a significant stride toward enhancing operational efficiency and environmental sustainability. Based on Infinite Cooling's calculations, the retrofit has led to impressive annual energy savings of 1,000MWh and water conservation exceeding 500,000 gallons per year, the equivalent of 400,000 toilet flushes.

SRBC funded the project as part of its efforts to ensure that water is used in such a way that maximizes its return to the basin after usage, undiminished in quantity. "Supporting projects like this is at the heart of our mission to enhance the ecological and economic health of the river basin," said Andrew Dehoff, SRBC Executive Director.

Infinite Cooling implemented its TowerPulse™ technology, a connected sensor package easily installed on existing cooling towers, paired with physics-informed AI algorithms to optimize operations through real-time insights. This advanced monitoring revealed new strategies for process optimization and critical maintenance tasks. Additionally, Infinite Cooling's WaterPanel™ technology, installed on one of the three cells, uses electric fields to capture high-quality water from evaporative losses. This system not only reduces the facility's environmental footprint but also abates the visible plumes typically emitted from cooling towers.

Thanks to these innovations, the plant operators can have access to live data, simplifying monitoring and feedback processes. In its first year, the 21MW waste-to-energy power plant had calculated savings of more than 1,000MWh of energy and 500,000 gallons of freshwater. With targeted equipment upgrades that have been identified, it could save an additional 3,000 MWh of energy and 800,000 gallons of freshwater per year.

"Cooling process inefficiency is a widespread problem and results in major energy and water waste. Our breakthrough technologies, in the hands of forward-thinking partners like LCSWMA and SRBC, can result in substantial tangible benefits in terms of sustainability and cost reduction," said Maher Damak, Ph.D, Co-Founder and CEO of Infinite Cooling.

This project exemplifies the potential for industry-leading technology to significantly impact energy efficiency and water conservation not only in waste-to-energy operations but in any industrial process that uses evaporative cooling. SRBC and Infinite Cooling are seeking additional sites and partners within the Susquehanna River Basin.

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About the Susquehanna River Basin Commission

The Susquehanna River Basin Commission is a federal/interstate government agency responsible for protecting and wisely managing the water resources within the 27,500 square-mile Susquehanna River Basin without regard to political boundaries. The Susquehanna rises and flows through New York, Pennsylvania, and Maryland into the Chesapeake Bay. For more information on the Commission, visit srbc.gov.

About Infinite Cooling, Inc.

Infinite Cooling is an award-winning technology company dedicated to enabling efficient and sustainable cooling. The company's patented solutions, including TowerPulse™ and WaterPanel™, optimize the efficiency of cooling systems, significantly reduce water and energy consumption, and lower operating costs. Co-founded by MIT researchers Dr. Maher Damak, Dr. Karim Khalil, and Prof. Kripa Varanasi, Infinite Cooling is the global leader in enhancing industrial cooling across the globe. The company has received numerous accolades from the Department of Energy, Edison Awards, MIT, and MassChallenge.