ADVERTISEMENT

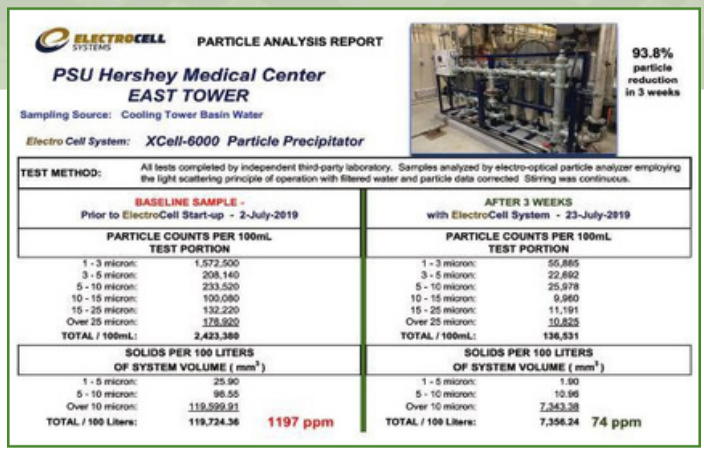
CASE STUDY

ElectroCell Systems' Solutions-Based Technologies at Penn State Health Milton S. Hershey Medical Center

CHALLENGE: Provide Cleaner Greener Open and Closed Loops, remove 98-99% of Suspended Solids (down to one micron and below) Improve Heat Exchange Efficiencies 100% of operating time not just 3%, 10% or 30%.

SOLUTION: Continuously provide an optimum efficiency of Chiller and Cooling Tower operations. Save Make-Up Water 20-25% due to reduced compression pressure on chillers and improve the effectiveness of Chemical Water Treatment.

RESULT: Cleaner Greener Operation – less energy, water, maintenance, service and repair. Operate at or below Manufacturers Specifications. WIN – WIN – WIN for all parties.



ELECTROCELL SYSTEMS — PARTICLE ANALYSIS REPORT

PSU Hershey Medical Center
EAST TOWER

Sampling Source: Cooling Tower Basin Water

Electro Cell System: XCell-6000 Particle Precipitator

93.8% particle reduction in 3 weeks

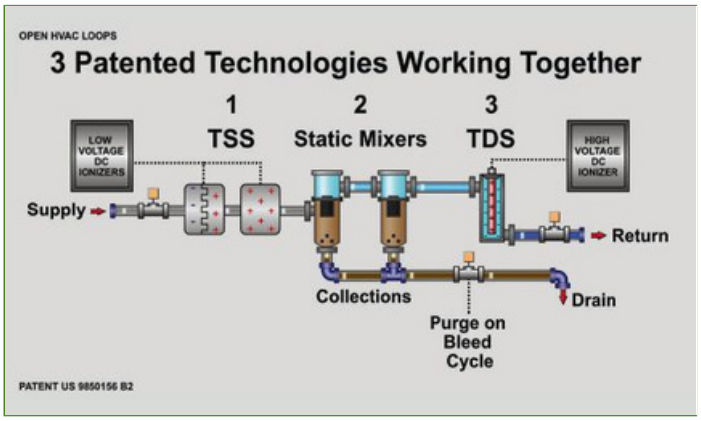
TEST METHOD: All tests completed by independent third-party laboratory. Samples analyzed by electro-optical particle analyzer employing the light scattering principle of operation with filtered water and particle data corrected. Stirring was continuous.

BASELINE SAMPLE - Prior to ElectroCell Start-up - 2-July-2019		AFTER 3 WEEKS with ElectroCell System - 23-July-2019	
PARTICLE COUNTS PER 100mL TEST PORTION		PARTICLE COUNTS PER 100mL TEST PORTION	
1 - 3 micron:	1,572,500	1 - 3 micron:	55,865
3 - 5 micron:	208,140	3 - 5 micron:	22,692
5 - 10 micron:	233,520	5 - 10 micron:	25,978
10 - 15 micron:	100,080	10 - 15 micron:	9,960
15 - 25 micron:	132,220	15 - 25 micron:	11,191
Over 25 micron:	176,920	Over 25 micron:	10,825
TOTAL / 100mL:	2,423,380	TOTAL / 100mL:	136,531
SOLIDS PER 100 LITERS OF SYSTEM VOLUME (mm³)		SOLIDS PER 100 LITERS OF SYSTEM VOLUME (mm³)	
1 - 5 micron:	25.90	1 - 5 micron:	1.90
5 - 10 micron:	98.55	5 - 10 micron:	10.96
Over 10 micron:	119,599.91	Over 10 micron:	7,343.38
TOTAL / 100 Liters:	119,724.36 1197 ppm	TOTAL / 100 Liters:	7,356.24 74 ppm

SUMMARY: The scope of this project involved five separate ElectroCell Systems: Two open loops in the Central Chiller Plant and two satellite chiller plants as well as addressing one central closed loop throughout the campus that service a total of 2.6 Million square feet of Medical Facility Operations.

Penn State Health Milton S. Hershey Medical Center is home to the Penn State College of Medicine. Founded in 1963 through a gift from The Milton S. Hershey Foundation, is one of the leading teaching and research hospitals in the country.

"ElectroCell is a good company to work with and has helped us improve our chilled water production capabilities", stated Kevin Kanoff Campus Energy Engineer. "Paul McLaine and his team were very capable and took extra time to understand our operation. Their understanding of chilled water production was beneficial in developing a side-stream particle precipitator system to meet our needs."



www.youtube.com/channel/UCrrx_4vMC0PS8SJHtZxl6Ng

Three Patented Process System address Scale, Corrosion or Biological (especially Legionella), we integrate several processes for both Open and Closed Loops, reduce Kw Per ton on the Chiller, Reduce Make Up Water, enhances performance of Chemical Treatment Program and Reduces the Maintenance, Repair and Service. We also, improve the efficiency of the chillers, reduce the Kw on the Pumps and Fans in the Cooling Towers.

ELECTROCELL SYSTEMS

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Strategic Partner:

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