



Tangent Technologies

Comprehensive Process Cooling Study – Case Study

Project Summary

As one of the leading manufacturers of high-tech plastic lumber, Tangent Technologies runs 24/7, using energy around the clock. One of its largest uses of electricity involves removing heat from production processes. With a goal of increasing efficiency, cutting costs and lowering environmental impact, Tangent Technologies decided to pursue a ComEd® Energy Efficiency Program Comprehensive Process Cooling Study. “We were looking at our chiller capacity when we were approached by the program about understanding our energy use,” said Ralph Holmes, plant manager for Tangent. “We recognized the opportunity to take our analysis to a whole new level through an energy study.”

The Solution

The study provided a detailed analysis of Tangent’s process cooling system and energy consumption. “This information was then used to design a cooling optimization plan that would positively affect system operations, identifying opportunities for capital upgrades, as well as low- and no-cost projects. Estimated energy savings, project costs and incentives were calculated for each recommendation.

Tangent Technologies implemented the following recommendations from the Comprehensive Process Cooling Study:

- **Installed thermostatic control valves on each of the 20 production lines to regulate flow and eliminate overcooling**

(Continued)

Project Snapshot

Customer

Tangent Technologies

Cost funded by the ComEd Energy Efficiency Program

\$16,000

Implementation cost paid by customers

\$372,676

Estimated annual energy savings

943,425 kWh

Estimated annual cost savings

\$70,757*

Incentive received

\$66,040

Estimated payback period without incentive

7 years

Estimated payback period with incentive

5.8 years

*Estimated annual cost savings are based on an electricity rate of 7.5 cents per kWh.

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- Installed two new high-efficiency 120-ton chillers
- Optimized chilled water set points
- Insulated chilled water lines
- Reconfigured chilled water system from constant-speed, primary-secondary to variable-speed, primary-only
- Installed two 165-ton dry coolers for supplemental cooling in the winter

Project Benefits

Tangent Technologies received incentives totaling more than \$66,000 from the ComEd Energy Efficiency Program after implementing the recommendations. The business is now more energy efficient and saves an estimated \$70,000 in energy costs annually.

Ralph Holmes said, “Once the physical changes were completed, we started seeing the difference in our energy costs. We also gained greater reliability and redundancy.”

Participating in the ComEd Energy Efficiency Program study has given Tangent Technologies a better understanding of its process cooling system and identified improvement opportunities that have led to a measurable reduction in energy usage.

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For More Information

The ComEd Energy Efficiency Program offers incentives, technical services and whole-building solutions to help facilities use energy more efficiently.



Learn more about how a process cooling study can benefit your facility.
Contact us today.

Email BusinessEE@ComEd.com (for businesses)
PublicSectorEE@ComEd.com (for public sector customers)
Call **855-433-2700**
Visit [ComEd.com/IndustrialSystems](https://www.comed.com/IndustrialSystems)