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## CASE STUDY

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### Heat Loss – A Problem for Wastewater Treatment & Nitrification

**Problem:** Operators know aerobic and anaerobic systems need sufficient water temperature to keep microbial populations active and working. Heat loss is detrimental to effluent quality and gas production. Both systems can be negatively affected from low daily and seasonal temperatures. Unfortunately, most operators and engineers have no control over water temperature loss in their tanks and basins.

A northern Wisconsin cheese plant was dependent upon their anaerobic digester to reduce COD to a level they could discharge into a POTW. Cold winter temperatures slowed the digestion process, reducing treatment efficiency and bio-gas output. A municipality in northern Illinois relied upon their oxidation oval for treatment. However, cold weather was creating a seasonal problem. They needed to improve the efficiency of their system during the winter months.

Even though the private and public facilities had very different treatment systems, both faced the same problem-heat loss.

**Solution:** Both facilities upgraded their facilities with insulated covers manufactured by Industrial and Environmental Concepts (IEC). The Wisconsin facility installed a flexible insulated gas collection cover on their square concrete basin. The Illinois facility installed a floating insulated cover on their oxidation oval.

**Result:** Insulating the water surface reduced heat loss and improved both anaerobic and aerobic processes of each. Reliable year-round treatment was achieved due to proper operation and the efficiency of the heat retention covers. The covers solved the problem. Both systems have been very successful all 12 months of the year with O&M being minimal to none. (952)-829-0731 [www.ieccovers.com](http://www.ieccovers.com)