Tennessee Pollution Prevention Partnership Success Story

Volvo Penta Marine Products, LLC.
200 Robert Wallace Drive
Lexington, Tennessee
38351
731-968-0151

1-800-734-3619
www.tdec.net/ea/tp3

Big Fans for Energy Conservation

The Member

Volvo Penta offers complete drive systems and service for leisure boats, workboats and industrial applications. By supplying technologically superior products focused on performance, reliability and environmental characteristics, Volvo Penta has developed a global leadership and is one of the industry's strongest brands. Better performance or better environment? Volvo Penta customers don't have to choose. They get both because our new engines are faster, stronger, more efficient, and better for the environment. That's just they way we work. Every year we invest in new technology that boosts the performance of our products while also reducing the impact on the environment. Environmental care in all operations is an integral part of Volvo Penta's commitment to customers and end users, employees and the community. That's why all our operations are in accordance with ISO 14001 standards.

The Story

Volvo Penta Environmental Objectives for 2007 include reduced energy consumption. Our goal is 50 % reduction per produced unit during the period 2004-2008 (Reference year: 2003). To help reach our goal we conducted an Energy Audit sponsored by the Tennessee Energy Institute under the over-sight of the University of Memphis. The systems we have already in place, like the use of computerized thermostats on air conditioning, the installation of positive shut-off valves on our compressed air supply lines, turning off ventilation fans for the paint rooms when not in operation, and the practice of turning off all lighting not required for security, are all good programs. One of the recommendations from the audit was to install ceiling fans in the warehouse and shipping areas.

The Success

We installed ten ceiling fans to circulate air in both summer and winter months. The physics of the fans is to move air, but in a much bigger way. With a big, slow-moving fan, a large column of air is pushed to the floor. Installed near the ceiling, one fan generates a column of air equal to the diameter of the fan. When it hits the floor, it creates a 9 ft deep jet of air that moves outward until it reaches a wall, a partition, or another column of air from another fan. From there, it is pushed upward to the ceiling where it is then pushed down through the fan blades for destratification.

The Pollution Prevented

Implementing this project saved 5918 mmBTUs of natural gas and 3460 kWh of electricity. This is equivalent to 606 tons of CO_2 for the gas savings and 3.83 tons of CO_2 of electricity usage, for a total of 609.83 tons of avoided CO_2 emissions. The project is estimated to save $49,674 in gas and $18,080 in electricity costs, producing $67,754 in total annual savings.

July 2007